

October, 1957

2212-25

SOAPS AND CHEMICAL SPECIALTIES

In this issue...

etter, easier-to-make
aps from fatty acids

* * * *

erosols' safety record
r better than average

* * * *

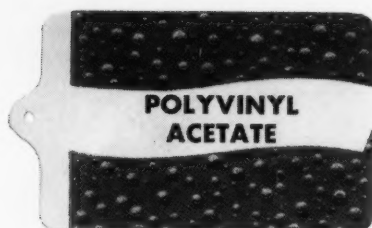
ach control problems
eld to new techniques

* * * *

remiums can boost sales
t follow the rule book

Justus C. Ward, newly appointed head of the pesticide regulation section of U. S. Dept. of Agriculture, has been associated with the department for past 30 years. He succeeds Dr. W. G. Reed, who resigned early last month.





Formulators — compounders!



**For removing
caustic-
resistant
organic
finishes —**



**formulate
solvent-type
strippers
with**



SOLVAY METHYLENE CHLORIDE

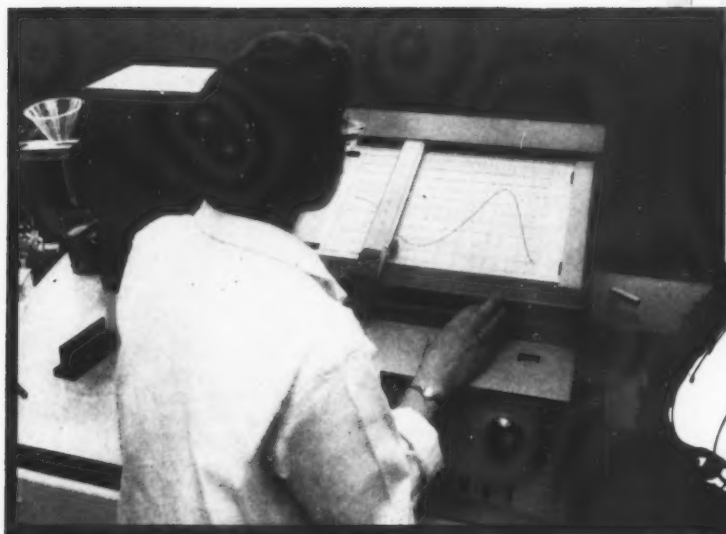
The new, difficult-to-remove, caustic-resistant organic finishes can be quickly and thoroughly stripped by specialized formulations containing SOLVAY Methylene Chloride. SOLVAY Technical Service experts are experienced in developing the highly specialized formulations needed to strip the new tough paint films that are not readily and efficiently attacked by caustic compounds. They will help you in developing formulations for the paint you want to strip.

There are added advantages to solvent-type paint strippers formulated with SOLVAY Methylene Chloride—they are non-flammable and work equally well on aluminum and many other bases that are attacked by caustic.



Mail for aid in stripping organic finishes!

	SOLVAY PROCESS DIVISION
	ALLIED CHEMICAL & DYE CORPORATION 61 Broadway, New York 6, N. Y.
I am interested in marketing a paint stripper for _____	
Name _____	
Position _____	
Company _____	
Phone _____	
Address _____	
City _____ Zone _____ State _____ BL-10	



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talk scents to a lady

They can't get in unless they're "fingerprinted" first. Norda makes the compounds used in Norda good scents prove their purity and "fingerprint" their fitness on the recording graph of this intricate instrument. It's an ultra-violet detective, whose job at Norda is pure protection.

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OCTOBER, 1957

3





*Are you searching for
an honest appraisal*

**to guide you as a
private brand
distributor**

SELF-POLISHING WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY® (standard)
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

**Beauty and
Durability**

Anti-Slip

**Water
Resistance**

**Solid
Content**

**Carnauba
Wax**

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax... beauty and protection.

Frequent damp mopping or wet traffic can make water resistance very important. Overdoing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

The percentage of solid content is not nearly as important as the quality of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

The most important features of a good wax...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

Other HIGHEST QUALITY wax products by CANDY & COMPANY

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER

For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

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A cream furniture polish that spreads easily, polishes without excessive effort to a deep lustrous lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

Bright Beauty PASTE WAX

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Bright Beauty LIQUID (spirit) PREPARED WAXES

A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usage. Each acts as a "dry cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors for bars, wallpaper, etc.

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to a high lustre without abrasion and can even correct the effects of scratchy "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX

Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

Bright Beauty Heavy Duty PASTE CLEANER

Cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

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Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

Wax Specialists for over 65 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

SOAP and CHEMICAL SPECIALTIES

CONTENTS

In Brief — As the Editor Sees It.....	39
As the Reader See It.....	43
DETERGENTS, CLEANSERS, SOAPS.....	45
Anyone for Premiums?.....	47
By Jack Doran	
Thioether Type Nonionic Surfactants.....	49
By John L. Eaton and W. Gilbert Kayser, Jr.	
Fatty Acid Soaps in Specialty Cleaners.....	52
By Willis J. Beach	
Second International Congress of Surface Activity.....	55
By F. V. Wells	
ACS Hears of New Detergents Based on Sugar and Petroleum.....	60
CHEMICAL SPECIALTIES.....	67
Aerosols' Safety Record.....	77
By Dr. E. G. Young	
New Trends in Roach Control.....	80
By Joseph E. Lee	
Construction and Operation of Test Floors for Floor Waxes.....	82
By Daniel Schoenholtz and George D. Burns	
Application of Chromatography to Analysis of Pyrethrins (Part II).....	91
By N. C. Brown, D. T. Hollinshead, R. F. Phipers and Margaret C. Wood	
PACKAGING.....	123
Packaging Notes.....	131
New Products Pictures.....	143
New Trade Marks.....	147
Pressure Packaging.....	149
PRODUCTION.....	159
Modern Liquid Detergent Plant.....	161
Book Reviews.....	167
New Patents.....	169
Products and Processes.....	171
Production Clinic.....	173
Soap Plant Observer.....	179
NEWS.....	183
Classified Advertising.....	211
Advertisers' Index.....	217
Tale Ends.....	218

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SOAP and CHEMICAL SPECIALTIES

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PLURONIC block-polymers possess outstanding surface-active properties, and are easy to formulate because they blend readily with common builders. They permit you to compound cleaning products which are essentially dust-free and exceptionally free-flowing. But most important of all, they make it possible for your products to offer desirable and distinct advantages over yesterday's formulations.

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OCTOBER, 1957

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Krystallex S-63 A specially purified sodium dodecylbenzene sulfonate. Clear and odorless liquid. Excellent base for clear liquid formulations such as liquid dishwashing detergents.

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Krystallex S-26 A new detergent manufactured exclusively for shampoo use.

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ORGANIC
CHEMICALS"

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can, a
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Remer
cosme
more s
ties lis
fully t



Guess!

You can't fool her eyes . . . but the magic of Verona's research and development chemists has perfected aromatic developers and extenders that can, *and do*, fool her nose.

Clean, fresh, brilliant top notes that rival Nature's own . . . and are helping some of America's leading cosmetics along the road to leadership.

Remember . . . the important point about the point of sale is this — to cosmetics shoppers the fragrance is vitally important. The scent can send *more* sales your way! We will gladly forward samples of the Verona specialties listed at the right. Try them and see for yourself how much more successfully they help you hit, and *hold*, the high notes.

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RESEDALIA, an acetal.

VERONOL, an aldehyde.

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PHENYL ACET ALDEHYDE PHENYL GLYCOL ACETAL

TERTIARY BUTYL DI METHYL CUMARIN

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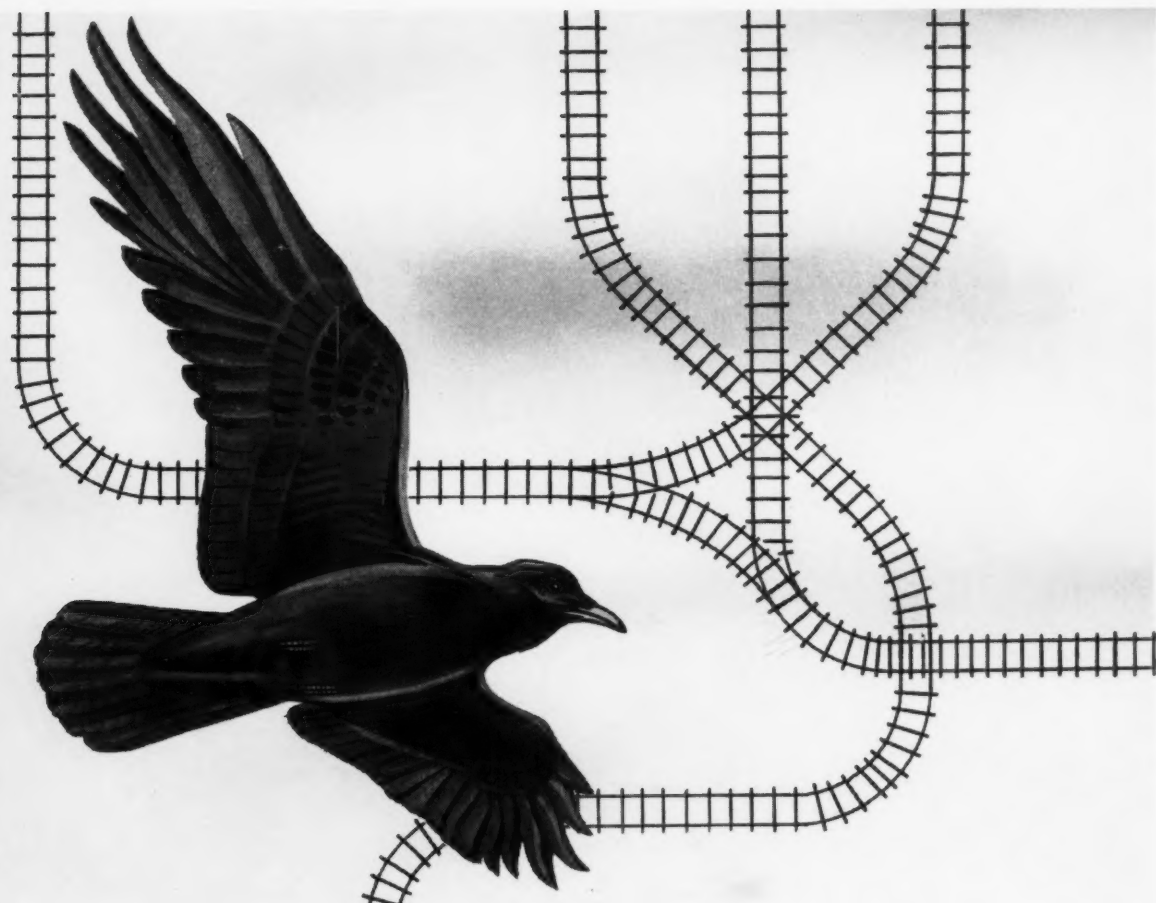
AROMATIC



DIVISION

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but caustic isn't shipped

"as the crow flies"

CAUSTIC SODA

Liquid 73%
Liquid 50%, Regular
and Low-Chloride Grades
Flake, Solid and Ground, 76% Na₂O

CAUSTIC POTASH

45% and 50% Liquid
Flake and Solid

Figuring delivery time and cost on alkalis isn't as simple as drawing straight lines on a map. You've got to reckon with such facts of life as market-competitive rates, routing, lay-overs and interchange points.

Westvaco gives exceptional service on Caustic Soda and Caustic Potash to many consumers who actually are nearer on the map to other producing points. Our location at South Charleston, W. Va. is central to the industrial East, Middle West and Mid-South, with ready access to trunkline railways, highways and waterways. We can frequently deliver at your plant days sooner than suppliers much closer "as the crow flies".

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chemicals

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FOOD MACHINERY AND CHEMICAL CORPORATION

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**VERY GREASY
FLOORS**

and for

**METAL CLEANERS
AND
VAT DIPPING**

Years of research and development have made MIRANOL AMPHOTERIC SURFACTANTS outstanding in versatility and performance. Numerous useful and desirable properties are combined in single, economical products. MIRANOL surface active agents have wider range of uses than any other synthetic detergent type available today.

MIRANOL CM CONC.*, the coconut derivative of the MIRANOL "M" SERIES, is exceptionally effective as a foaming, scouring and cleaning agent in the formulation of liquid heavy duty industrial cleaners, where high alkali content is required. Powerful cleaners can be formulated economically to easily and conveniently clean greasy floors (as in garages, factories or machine shops). MIRANOL CM CONC. has extremely high tolerances for electrolytes, alkalies and acids. As a result, excellent metal cleaning and vat dipping compounds can be formulated. The Miranol Chemical Co., Inc., 275 Coit St., Irvington, N. J. Tel: Essex 4-2500.

*U. S. Pat. No. 2,528,378

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AUTOMOBILE WHITE WALL
TIRE CLEANER
BILGE CLEANER
FLOOR MAINTENANCE
PRODUCTS
HAND DISHWASHING
COMPOUND
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COMPOUND
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COMPOUND
OIL TANK DEGREASER
COMPOUND
WAX REMOVERS

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**CM CONC.
CM CONC.**

Purity is a tradition with West End **SODA ASH**

At West End, we have developed production techniques and controls that maintain the traditional quality of our product even as we produce it in the ever-increasing quantities required by Industry in its current expansion. We submit West End as a soda ash of highest purity and offer the adjacent analysis for your consideration.

Communications invited.

ANALYSIS

	GUARANTEE	TYPICAL
Na_2O	58%—	58.4%—
Na_2CO_3	99.5 —	99.85 —
NaCl		.01-.03
Na_2SO_4		.02-.06
$\text{Na}_2\text{B}_4\text{O}_7$.03-.07
INSOLUBLE	.01 max.—	.005-.007
SOLUTION	CLEAR	
COLOR	WHITE	
DENSITY	57-62 lbs. per cu. ft.	



West End Chemical Company

DIVISION OF STAUFFER CHEMICAL COMPANY
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Makon 10 is a nonyl phenoxy polyoxyethylene ethanol offering excellent detergency, foaming, dispersing, emulsifying and solubilizing action. It will not hydrolyze in aqueous solutions of alkalis or acids. It can be used with anionic, cationic or other non-ionic agents. Makon 10 is effective in hard or soft water, as it does not form salts with metallic ions and is also unaffected by oxidizing or reducing agents.

**STEPAN**

makon 10

SPECIFICATIONS

Physical State:	Clear viscous liquid
Color:	Pale yellow to colorless
Cloud Point of 1% Solution in Water:	52°—56°C
pH (1% solution):	Neutral
Solidification Point (°C):	4°
Flash Point (°C):	290°
Fire Point (°C):	330°
Density:	8.85 lbs. per gallon
Specific Gravity (25°C):	1.06

Send Coupon for Further Information and Sample

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Telephone: CEntral 6-5511

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Stepan your "SHQ" (surfactant headquarters)*

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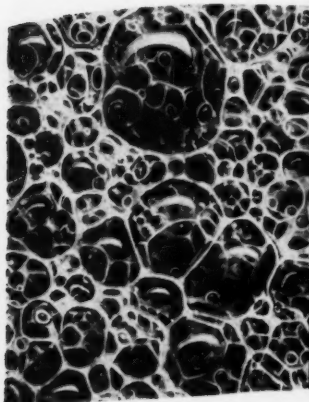
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HD-90

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PILOT HD-90 is odorless, dust-free, dry flowing and whiter in color

PILOT HD-90 is cold processed, high active Alkyl Aryl Sulfonate; 90% minimum active drum dried flake

More detergent suds *immediately* increase consumer acceptance for your product! Every micelle produced in solution from Pilot HD-90 is homogeneously effective for uses such as household suders, industrial detergents and scouring powders. Cold processing eliminates odors, undesirable oils, stickiness and other bad characteristics from molecular rearrangement and side reactions. Pilot HD-90's high quality in the making and mixing of dry products is equally applicable to the manufacture of liquid detergents. Pilot HD-90's concentrated and low sulfate properties minimize filtering; give liquids the highest sudsing and cleansing powers obtainable. Write for formulas and samples. *Only Pilot HD-90 Detergent features this premium quality at competitive prices!*

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- Dodecyl Benzene Sulfonates
- Sodium Toluene Sulfonate

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to Match Your
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Product...**

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233 LL* ELAINE**



When you specify Emersol 233 LL Elaine, the purest oleic acid available commercially, your products will reflect all of the quality advantages of this fine oleic acid. Not only will they be purer, more uniform, of higher quality than when made with other oleic acids, but they will maintain their performance, light color, and bland odor even after prolonged aging.

When such a fine oleic acid is available at only a slight extra cost over ordinary double distilled oleic acids, why

jeopardize your product's reputation, your customer's satisfaction, and your sales, by using an inferior oleic acid?

Try Emersol 233 LL Elaine in your next plant run and you'll see why it is the first choice among manufacturers of quality products.

Or—for detailed information on Emersol 233 LL Elaine or any of the other seven extra-value grades of Emersol Oleic Acids, mail coupon below.

*Low Linoleic



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CINCINNATI 2, OHIO

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COMPANY.....
ADDRESS.....
CITY.....STATE.....

Oronite has **THE** surfactant to fill your individual needs

want detergency?

Whether you require exceptional detergency properties in the basic raw material or from a surfactant in intermediate form or in a finished product—it will pay you to consult Oronite—the world's largest producer of synthetic detergent raw materials. Our extensive technical experience is at your disposal.

want **HIGH** suds or **LOW** suds?

Oronite's D-40 finished dry detergent in flake, granule or powder form has excellent foaming power in hard or soft water. D-60 offers you a higher active product. Nonionic Dispersant NI-W is a water soluble, low sudsing product desirable where "foam" is a handicap.

want *rapid,* thorough "wetting"?

D-40, D-60 in dry form, Wetting Agent "S" in paste form and NI-W in liquid form have superior wetting ability. Compare these products with those you are now using—samples are available. Or, tell us your particular needs for "wetting" and we can provide suggested formulations.

want *emulsifying* or dispersing action?

D-40 and D-60 have the ability to emulsify and suspend animal, vegetable, and mineral fats, oils and greases. Oronite's water soluble Dispersant NI-W is completely compatible with soaps, anionic detergents and cationic germicides. Its companion product Dispersant NI-O is an outstanding emulsifier for water-in-oil emulsions.



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Sales Offices

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Los Angeles, San Francisco

European Office

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ORONITE CHEMICAL COMPANY

200 Bush Street, Dept. D
San Francisco 20, California

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- ☐ I desire further information regarding the following properties of Oronite surfactants. () Anionic () Nonionic () Detergency () Sudsing () Wetting () Emulsification

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Address _____

City _____ Zone _____ State _____

After Closing

Simoniz Elects Four V.P.'s

Simoniz Co., Chicago, recently announced the appointments of Robert C. Shropshire, Herbert



Robert C. Shropshire

W. Carr, Charles Kindelberger and Dr. Paul Wenaas as vice-presidents. Mr. Shropshire will direct the marketing and foreign operations departments, while Mr. Carr will be in charge of the finance and manufacturing departments. Mr. Kindelberger will supervise technical research. Dr. Wenaas is vice-president in charge of manufacturing.

Mr. Shropshire came with the company in 1951 as sales manager of Simoniz Co., Ltd., Toronto. He later served as vice-president of

the Canadian operation and last year came to Chicago as vice-president of foreign operations. Mr. Carr joined Simoniz in 1952 as controller, served as treasurer, then as vice-president of finance before his present appointment. With the company since 1952, Mr. Kindelberger served as assistant treasurer and most recently as assistant to the president. Dr. Wenaas, who joined the company in 1934 as a chemist, has been manager and then director of technical research.

Study U. S. Polishes

Helmut Schneider of Werner & Mertz AG, Mainz am Rhein, Germany, accompanied by Dr. Willi Hessler, chief chemist for the company, are spending six weeks in the United States studying production and packaging methods for polishes and cleansers. They are visiting American plants and conferring with raw material and equipment suppliers. They will return to Germany about November 10. The company, one of the best known in Europe, produces shoe polishes, including the well-known Erdal Brand, and also floor and auto polishes as well as household cleansers and polishes.

Sharrard in New Post

George F. Sharrard has joined the Michigan Alkali Division of Wyandotte Chemicals Cor., Wyandotte, Mich., as manager of marketing research. Mr. Sharrard formerly was director of research and development of R. M. Hollingshead Corp., Camden, N. J.

Koch of Dow Retires

Fred A. Koch, special assistant to the director of sales of the Dow Chemical Co., retired Sept. 10 after 38 years service with the company. He joined Dow in 1919

and was attached to the New York office since that time chiefly in the sales department. He was active in the CSMA and well known in the chemical specialty field. A testimonial luncheon was tendered Mr. Koch on Oct. 1 at the Warwick Hotel, New York, by the Dow organization where he was presented with a set of golf clubs and a silver



Fred A. Koch

tray engraved with the signatures of his co-workers at Dow. He resides at West Hempstead, Long Island.

UBS Sales Head

John C. Smith has been named sales manager of the industrial chemicals division of UBS Chemical Corp., Cambridge, Mass., it was announced recently. Mr. Smith formerly served as drug trade relations manager with Pitman Moore Co., Indianapolis, pharmaceutical manufacturer.

John C. Smith



Herbert W. Carr

Ward Succeeds Reed

Justus C. Ward has been named to succeed Dr. W. G. Reed as head of the pesticide regulation



Dr. W. G. Reed

section of the U. S. Department of Agriculture, it was announced recently. Dr. Reed, head of the section for the past four years, resigned last month.

Formerly assistant head, Mr. Ward has been associated with USDA for 30 years. He previously served as assistant director of wildlife research, and director of the pharmacological and rodenticide section of USDA's production and marketing section.

Dr. Reed was associated with the department for 30 years. He formerly was chief of the insecticide division and was responsible for the 1947 revision of the Insecticide Act of 1910.

West Advances Van Raalte

Thomas Van Raalte, advertising manager of West Chemical Products, Inc., Long Island City, N. Y., last month was named assistant to the president of Lazarus Laboratories, Inc., a division of West. He has been with West for the past 10 years, the last six of which as advertising manager. In his new post he reports to Leonard J. Oppenheimer, president of Lazarus. Mr. Oppenheimer is also secretary of West.

Succeeding Mr. Van Raalte as advertising manager of West is Ray Goodwin. For the past two years he has been associated with

the trade mark division of Reuben H. Donnelley Corp., New York, and prior to that was installation staff supervisor of George S. May Co., Chicago.

Charles Crawford Dies

Charles W. Crawford, 68, retired Commissioner of the U. S. Food and Drug Administration, died Sept. 14 at Stanford Hospital, San Francisco, after a short illness.

Mr. Crawford served as FDA Commissioner from 1951 through 1954. He was considered by many to be father of the present Food, Drug and Cosmetic Act, having helped guide it through Congress between 1933 and 1938 while legislative representative of the department. He retired to Mill Valley, a San Francisco suburb, in 1954 after more than 40 years of Government service.

Morgan Joins Dragoco

Appointment of Eugene E. Morgan to the perfume department of Dragoco, Inc., Holzminden, Germany, was announced last month by Henry G. Gribou, vice-president. Mr. Morgan will serve with Dragoco's United States division, located at 250 West Broadway, New York 13. Prior to joining the German aromatics and perfume specialties house, Mr. Morgan was associated with Colgate-Palmolive Co., New York, where he was employed for eight years in the perfume department.

Eugene E. Morgan



Lipscomb in New Post

Charles T. Lipscomb, Jr., has been named president of the Bureau of Advertising of the Amer-



Charles T. Lipscomb

ican Newspapers Publishers Association, Inc., it was announced by Richard L. Jones, Jr., board chairman. The appointment became effective Oct. 8.

For the past three years, Mr. Lipscomb had been president and a director of J. B. Williams Co., Glastonbury, Conn. Previously, from 1950 to 1954, he had been president of the Pepsodent Division of Lever Brothers Co., New York.

Mr. Lipscomb began his business career with Vick Chemical Co., in Greensboro, N. C., serving as secretary to company executives, and later becoming sales manager. After three years with Coca Cola Co. he joined McKesson & Robbins, Inc., New York, as vice-president in charge of the industrial sales division. Later he became vice-president and general sales manager of the wholesale division. He left in 1950 to join Lever.

Mr. Lipscomb is a director of the National Sales Executives and the Sales Executives Club of New York and a vice-president of the Toilet Goods Association.

Turco Elects Sanders

Election of Harold W. Sanders to its board of directors was announced last month by Turco Products, Inc., Los Angeles. Mr. Sanders is vice-president of Union Oil Co. of California.

Lauffer in New Post

Appointment of Paul G. I. Lauffer as director of research of Northam Warren Corp., Stamford,



Paul G. I. Lauffer

Conn. was announced last month. Northam manufactures "Cutex" cosmetic preparations. Dr. Lauffer formerly was chief chemist of George W. Luft Co., New York, in charge of production, control and research. He served in that capacity for 23 years. Previously, he had held a similar position with Pinaud, Inc., New York.

Dr. Lauffer is former chairman of the scientific section of the Toilet Goods Association, and past president of the Society of Cosmetic Chemists. He is presently a member of that organization's executive committee.

New Pennsalt Plant

Pennsalt Chemicals of Canada, Ltd., Hamilton, Ont., recently began construction of a new plant for the manufacture of sanitary, laundry, dry-cleaning and metal processing chemicals on a ten-acre site near Oakville, Ont. The plant, Pennsalt's first in Canada, is scheduled for completion by the end of the year.

Of brick construction, the new one-story unit features the latest blending and materials-handling equipment and includes warehousing facilities and offices for administrative and sales personnel.

The company also announced the appointment of William B. Billingsley, as vice-president and

resident manager. Formerly associated with Canadian Industries, Ltd., Mr. Billingsley had been director of Pennsalt sales in eastern Canada since 1954.

Wyandotte Elects Day

Election of William R. Day as secretary of Wyandotte Chemicals Corp., Wyandotte, Mich., was announced last month by Robert B. Semple, president. Formerly assistant secretary, Mr. Day joined the company in 1944 as a patent attorney. He was appointed administrative assistant to the president in 1950 and became assistant secretary a year later. In 1955 he was named legal director, a post he still holds.

Fee for Ala. Chemists

To practice chemistry, bacteriology, medicine and a number of other professions in the State of Alabama one must pay an annual license fee under House Bill 265, passed last month. The fee, which must be paid every year after the first two years a person has been in practice, is \$25 in communities of over 5,000 inhabitants, less in smaller communities.

MM&R Sales Changes

Ad Warner has been named sales representative in Indiana, Kentucky and Ohio for Magnus, Mabey & Reynard, Inc., New York, it was announced last month. Mr. Warner previously served in various sales and consulting capacities in this territory. He succeeds Henry J. Becker, the company's senior representative, who is limiting his sales area to Indianapolis. Mr. Becker has been with MM&R for 40 years.

Ad Warner



Henry Becker



New Alsop Officers

Samuel Alsop has been elected president of Alsop Engineering Corp., Milldale, Conn., manufac-



Samuel Alsop

turer of liquid processing equipment, it was announced recently. Since 1949, Mr. Alsop had been first vice-president. Also announced by the firm's board of directors was the election of Charles E. Crowley as board chairman.

Re-elected as officers were Elias Z. Ross, treasurer, and Clark C. Morganson, secretary. Joseph Zoufaly was re-elected a director. Mr. Alsop's successor will be chosen in the near future, according to the announcement.

Strayer Heads Wax Group

Robert I. Strayer, vice-president and treasurer of Smith & Nichols Co., Carlstadt, N. J. was recently elected president of the American Wax Importers and Refiners Association, Inc., at their tenth annual meeting held at the New York Athletic Club. Also elected at the September 24th dinner and business meeting were the following officers: Frederick S. Cluthe, Stromeyer & Arpe, Inc., New York, vice-president and Edward R. Hess, F. W. Steadman Co., New York, secretary-treasurer. Elected as directors for the coming year were Luis M. Argueso, Sr., M. Argueso & Co., Mamaroneck, N. Y., Peter Hahn, Hans Tobeason Div., Balfour-Guthrie Ltd., New York, and Edward M. Schumacher, F. W. Steadman Co.

Feldpush in New Post

Appointment of Norman V. Feldpush as sales manager of Wil-son-Martin, Philadelphia, manu-



Norman V. Feldpush

facturer of fatty acids, was announced recently by B. H. Hooper, general manager. Mr. Feldpush joined the company fifteen years ago as director of research. He subsequently served as production manager and technical sales representative.

Nat'l Starch Polish Resin

A new vinyl plastic resin for use in rebuffable and water emulsion floor polishes was introduced last month by National Starch Products, Inc., Plainfield, N. J. "Resyn" 25-2400 marks the firm's initial entry into the floor products field. High gloss, good wear and scuff resistance, water spot resistance, and shelf-life stability are claimed for formulations incorporating the new vinyl resin.

Self-polishing waxes formulated with "Resyn" 25-2400 are said to be slip-resistant, easily removable, and temperature stable, and to retain their gloss on aging. Rebuffable polishes incorporating the product have good initial gloss without buffing, and good leveling characteristics, according to James Dillon, National Starch vice-president, who announced availability of the new resin.

Suitable for application to floors of linoleum, asphalt, vinyl and rubber tile and other synthetic floor coverings, polishes made with

"Resyn" 25-2400 will cause gloss build up on unsealed surfaces after reapplication but are said to be non-yellowing.

"Resyn" 25-2400 is compatible with carnauba, polyethylene, microcrystalline, and Fischer-Tropsch waxes as well as with a wide range of modifying resins.

Sample floor polish kits containing a trade-sales polish, and a rebuffable industrial maintenance polish are available from the resin division of National Starch Products, Inc., 1700 West Front Street, Plainfield, N. J.

NACA Elects Vernon

At its recent annual meeting in Spring Lake, N. J., the National Agricultural Chemicals Association elected as its new president Jackson V. Vernon, president of Niagara Chemical Division of Food Machinery and Chemical Corp. He succeeds Fred W. Hatch, manager of the agricultural chemicals division of Shell Chemical Corp. Charles H. Sommer, Jr., vice-president of Monsanto Chemical Co., becomes vice-president of the association.

Three new members were elected to the board of directors: George R. Ferguson, president of Geigy Agricultural Chemicals Division of Geigy Chemical Corp.; John O. Logan, vice-president and general manager of the industrial chemical division of Olin Mathieson Chemical Corp.; and Warrent H. Moyer, president of Chipman Chemical Co.

J. V. Vernon



Maubert Honored

Maurice Maubert, president and general manager of P. Robertet & Cie, Grasse, France, parent com-



Maurice Maubert

pany of P. Robertet, Inc., New York essential oil house, was named recently to the rank of Knight in the French Legion of Honor. This distinction was awarded Mr. Maubert for his many contributions to the essential oils industry, which include discovery of several new extraction processes. His grandfather, P. Robertet, founded the firm in 1850.

Senneborn Hard Waxes

Expansion of its microcrystalline wax plant at Petrolia, Pa., to include facilities for the manufacture of oxidized microcrystalline waxes was announced late last month by L. Senneborn Sons, Inc., New York.

Primarily intended for use in the manufacture of emulsion polishes, these hard waxes function as replacements for natural or vegetable waxes.

A pilot plant for limited production of oxidized waxes has been in operation some time. Construction of the additional plant facilities is expected to begin in the near future.

Samples of the new high melting point waxes may be obtained upon request from Petroleum Specialties, Inc., 205 East 12nd Street, New York, exclusive distributors of Senneborn waxes.

Hugh R. MacMillan Dies

Hugh R. MacMillan, Jr., 53, vice-president in charge of manufacturing and a director of Colgate-



Hugh R. MacMillan, Jr.

Palmolive Co., New York, died of a heart attack Oct. 6 while playing golf at the Baltusrol Country Club, Springfield, N. J. Mr. MacMillan was a resident of Short Hills, N. J.

With Colgate since 1911, Mr. MacMillan has served as vice-president of manufacturing since 1946. He was elected a director in 1955. Previously, he served the company as chief industrial engineer, superintendent of the Jersey City, N. J., plant and domestic production superintendent. He was appointed general superintendent in 1945.

★

Elected UBS Directors

Robert L. Fielding and John A. Lunn have been elected directors of UBS Chemical Corp., Cambridge, Mass., it was announced recently by Paul W. Atwood, president. Mr. Fielding is president of Commercial Filters Corp., Melrose, Mass., and Mr. Lunn is vice-president of Kendall Co., Boston.

★

Collated "Schimmel Briefs"

Schimmel Briefs, volume II, published by Schimmel & Co., New York, 1957, paper, ringbound, price \$10 in U. S. and Canada, \$10.25 elsewhere.

The second collation of the well-known monthly "Schimmel Briefs" covers the years 1951 through 1956. Preceded by a table

of contents by years and months of publication and including a detailed subject index, the second volume, like its predecessor, is a valuable and easy to use source of reference. Information includes uses and application of surface active agents in shampoos and a wide range of cosmetic specialties. Formulations and packaging for many cosmetics and allied products receive attention and numerous patents in the field are reviewed.

★

To Make Ethyl Parathion

Velsicol Chemical Corp., Chicago, has announced that it will produce ethyl parathion at its Memphis, Tenn., plant, starting about Nov. 1. The product, a phosphate insecticide for control of mites and aphids, is used mainly on fruits, cotton, small grains and vegetables.

★

P&G Education Grants

A new plan of long-term unrestricted grants to ten leading universities and 39 regional associations of smaller independent colleges was announced last month by Procter & Gamble Co., Cincinnati. The new plan will increase the company's aid-to-education program to nearly \$1,000,000 annually.

The ten universities, which will each receive grants of \$20,000 annually, are those that, according to P&G, "over the years have grown to become national rather than local in significance and are widely recognized for their emphasis on excellence in scholarship."

Through annual gifts of \$110,000 to state and regional associations, P&G will be contributing in some measure to 465 colleges and universities throughout the nation, with a total enrollment of more than 400,000 students. The company said it hopes to continue the new direct grant plan for at least five years.

Universities receiving the grants are: Chicago, Columbia, Cornell, Harvard, Massachusetts Institute of Technology, Northwestern, Pennsylvania, Princeton, Stanford and Yale.

To Aid TAS Fund Drive

Pierre Coutin, president of Ph. Chaleyer, Inc., New York, recently was named chairman of the



Pierre Coutin

Essential Oils and Extracts Division of Travelers Aid Society of New York's 52nd Annual Fund Drive. Mr. Coutin, who also is president of the Essential Oil Association of the United States, is one of 300 executives in metropolitan New York participating in the drive for funds which runs from Sept. 30 to Dec. 31.

★

New Johnson Formula

S. C. Johnson & Son, Inc., Racine, Wis., has announced a new formula for its "Beautiflor" floor wax. Called "Trans-Lite," the new formula is self-stripping, non-yellowing and is said to clean as it waxes. It is said to make "Beautiflor" suitable for use on light-colored floors of vinyl, linoleum and wood by deepening the appearance of contrasting colors. In addition it is also claimed to provide long-lasting protection for heavily-travelled floors.

★

Ring to Petrolite

Sidney B. Ring recently was named patent attorney for Petrolite Corp., St. Louis. Mr. Ring previously was affiliated with General Electric Co., as a patent attorney and with American Cyanamid Co., Stamford, Conn., as a research chemist. He will headquarter at Petrolite's research center at Webster Groves, Mo.

New Floor Finish

Uncle Sam Chemical Co., New York, has developed a new safety floor finish for use on sur-



faces of asphalt, vinyl, rubber, linoleum, cement, finished wood and terrazzo, it was announced recently by Herman Schwartz, general manager.

Tradenamed "Evertuff," the product is said to dry to a shine without polishing. It is also claimed to provide protection against dirt and water spotting and is slip and scuff-resistant.

WARF Mouse Booklet

A booklet devoted exclusively to mouse control is now in the process of preparation, it was announced recently by Ward Ross, managing director of the Wisconsin Alumni Research Foundation, Madison, Wis. The mouse control booklet is a follow-up of an earlier rat and mouse control guide and fact book. As of Sept. 10, over 92,000 copies of the rat and mouse control guide and fact book had been distributed among agricultural leaders concerned with rodent control. These included, according to Mr. Ross, supervisors or directors of agricultural education, extension entomologists, specialists, economists and agronomists, county agents, state 4-H club leaders, Negro agents, health departments and others.

Plans for another consumer advertising program in farm papers featuring "Warfarin" as a rodent control material are now being completed by the Foundation and its "Warfarin" licensees. The pro-

gram, similar to those conducted annually since 1952, will be substantially increased over those of previous years.

—★—

New Eastman Quinone

2,5-Dihydroxybenzoquinone suggested for use as a chelating agent, became available last month in pilot plant quantities from Eastman Chemical Products, Inc., Kingsport, Tenn. Derived from hydroquinone, the compound also finds application as polymerization inhibitor, and as an intermediate in the manufacture of insecticides, fungicides, antioxidants, and other specialties. In addition to being more stable than most quinone compounds, 2,5-dihydroxybenzoquinone is said to be less irritating to skin and eyes during handling. Typical properties and reactions of the product are described in a technical data report.

New Fire Extinguisher

Spray Products Corp., Camden, N. J. has developed a new fire extinguisher in a 12-ounce aerosol



container. The product is designed to be effective against virtually all types of first stage fires. Packed in a Crown can "Spray Fire Extinguisher" contains carbon tetrachloride. It may be used in places of business, kitchens, workshops and autos.

T. T. Wiley (left), Commissioner of New York City Traffic Department, Harold Gardner (second from right), president of B. Altman & Co., and Grover Whalen (right), chairman of the Fifth Avenue Golden Anniversary Celebration, assist Robert Janover, president of Noxon, Inc., Jersey City, N.J., in "Noxonizing" one of fifty Fifth Avenue traffic light poles. The event was part of a "Noxon Cleans Up Fifth Avenue" promotion campaign.



New Industrial Reps.

Duo-Dellay Products, Baltimore, recently announced that three of its retail salesmen also have



R. I. Meddaugh



W. F. Burch

been assigned to handle the firm's industrial sales. Ralph T. Meddaugh will handle Duo-Dellay industrial sales in Minnesota, Wisconsin, North and South Dakota. W. F. Burch of the Burch Co., Los Angeles, will cover southern California, and M. Shubinski will represent the company's line of rug and upholstery cleaners in Texas, Oklahoma, Arkansas, Louisiana and Memphis, Tenn.

Monsanto Ups Phosphates

Monsanto Chemical Co., St. Louis, has announced price increases on the following sodium phosphates, effective Oct. 1: Mono-sodium phosphate anhydrous was increased 30 cents per hundred pounds to \$9.00 per hundred; Tri-sodium phosphate was raised 40 cents per hundred pounds to \$9.05;

"SAPP-X," the company's technical grade of sodium acid pyrophosphate-x, was increased by 25 cents per hundred pounds to \$10.85; and "Oilfos," "S.Q.," and sodium hexametaphosphate were raised 30 cents per hundred pounds to \$11.10. All prices are on bags in truckload or carload lots.

Solvay Expands Ga. Plant

Expansion of its Brunswick, Ga., chlorine-caustic soda plant was announced last month by Solvay Process Division of Allied Chemical & Dye Corp., New York. According to I. H. Munro, Solvay president, the new facilities will double the plant's production capacity. Mr. Munro added that liquid caustic soda is now available in both regular and rayon grades from the Brunswick unit. Shipments are made either by tank car or barge.

Delco Names McColl

Duncan A. McColl has been named to head the newly-established Denver sales office of Delco Chemicals, Inc., Los Angeles, a subsidiary of Pennsalt Chemicals Corp., Philadelphia. Formerly manager of radio station KOA in Denver, Mr. McColl will also serve as representative for Delco's line of industrial cleaning compounds and chemicals in Colorado.

New "Oven-Aid" oven cleaner kit announced recently by G. N. Coughlan Co., West Orange, N.J., consists of polyethylene tube of cleaner and plastic vinyl mit with rough surface for removing baked on grease and dirt. Kit retails for \$1.49.



New Dishwasher Injector

The J. B. Ford Division of Wyandotte Chemicals Corp., Wyandotte, Mich., is now marketing the



"Minipump Injector," a control instrument for maintaining correct rinse booster concentration in dishwashing machines. The device is said to maintain correct concentrations regardless of the amount of pressure on line. It is also claimed to be non-clogging, easily installed and non-stopping.

Chemical Show at Coliseum

The 26th Exposition of Chemical Industries will be held in the New York Coliseum Dec. 2 to 6. Nearly 550 exhibitors have been assigned space. The show will occupy all four floors of the Coliseum. A control panel for batching and proportioning liquids and solids that is responsive to a punched-card formula will be one of the novel exhibits to be shown.

The exposition is under the management of the International Exposition Co., 480 Lexington Avenue, New York.

Frederick Gumm Dies

Frederick Gumm, 66, founder and president of Gumm Chemical Co., Kearney, N. J., died Sept. 12 of pneumonia in Clara Maass Hospital, Newark, N. J. Mr. Gumm founded the firm, which manufactures cleaning compounds, 30 years ago.

Surviving are his wife, Nellie Swick Gumm, a son, John Gumm of Caldwell, N. J., and a daughter, Mrs. Ruth Sizelove of Point Pleasant, N. J.

C-P Sales Appointments

Appointment of C. Gilbert Green as general sales manager of the toilet articles division of Col-



Gilbert Green

gate-Palmolive Co., New York, was announced last month by Robert E. Hilbrant, director of marketing for the division.

At the same time, it was announced that H. P. McClure was

named to the newly-created post of general sales and promotion manager of food and drug store chains.

Mr. Green formerly served



H. P. McClure

as division sales manager, while Mr. McClure previously was a field sales manager in the division. Both men have been with Colgate for approximately 30 years.

Novel Shampoo Base

A new basic ingredient for shampoos was introduced recently by the Organic Chemicals Division of E. I. du Pont de Nemours & Co., Wilmington, Del. "Duponol" XL is described as a pseudo-amphoteric product, because its complex structure contains two hydrophilic sites, one of which is an anionic sulfate structure while the other is amphoteric. Due to the presence of the anionic site the material is not compatible with cationics.

Foaming power in the presence of greasy soil and in hard water and substantivity to hair and skin are said to be the outstanding characteristics of the new surfactant. "Duponol" XL is a clear, light amber, moderately viscous liquid of bland odor. It is stable at a pH of at least 5.0 and upward.

The product may be made into a clear liquid shampoo simply by dilution and the addition of a thickening agent to achieve the desired viscosity. No additive to counteract degreasing is needed since the material does not have any degreasing action. Foam boost-

ers are not required but may be useful to build viscosity. Viscosity can also be influenced by pH. Maximum viscosity prevails in the range of 7.0 to 8.0. Electrolytes such as sodium chloride can be used to influence viscosity. But the electrolyte level must not be raised to the point where the cloud point will be adversely affected. Foaming is essentially unaffected by pH. "Duponol XL" is compatible with soap and lends itself to use in bubble bath formulations.

Substantivity of the material carries and holds onto the hair and skin such additives as lanolin, polyvinyl pyrrolidone, lanolin, etc. which might not survive shampooing with conventional materials.

A data sheet giving further information is available from du Pont.

J. B. Moore in New Post

John B. Moore Corp., Nutley, N. J., manufacturer and distributor of solvents, have appointed John B. Moore as sales representative for the southeastern states, it was announced recently.

Monsanto Appoints Two

James E. Crawford has been appointed assistant director of industrial sales and A. Bryan MacMillan St. Louis district sales manager of the inorganic chemicals division of Monsanto Chemical Co., St. Louis.

Mr. Crawford has been with Monsanto since 1946 and had been St. Louis district sales manager since 1954. Mr. MacMillan joined the company in 1948 and for the past five months had been product sales manager for heavy chemicals.

"Lysol" TV Campaign

"Lysol" disinfectant on Sept. 19 began co-sponsorship of the "Truth or Consequences," television show over the National Broadcasting Co. network, it was announced by Lehn & Fink Products Corp., New York. Programming is scheduled for 11:30 a.m. on alternate Thursdays.

Lehn & Fink will utilize 60-second film commercials to promote "Lysol's" use in the kitchen, bath and nursery and to stress its applications as a general household cleaner. Concentration on the product's cleansing properties follows the recently established program of selling the product primarily as a basic household cleanser rather than over-emphasize its semi-medical use.

In line with this new approach, "Lysol's" package was redesigned earlier this year.

Roy H. Kienle Dies

Roy H. Kienle, 61, a physical chemist and former director of research for Stamford Laboratories, Research Division of American Cyanamid Co., Stamford, Conn., died at Stamford Hospital, Sept. 2.

With Cyanamid since 1933, Dr. Kienle served as a research chemist until his appointment as director of applied research at the company's Bound Brook, N. J. plant in 1952. Prior to joining Cyanamid, he served for 14 years with General Electric Co., Schenectady, N. Y., where he did research on resins and polymers.



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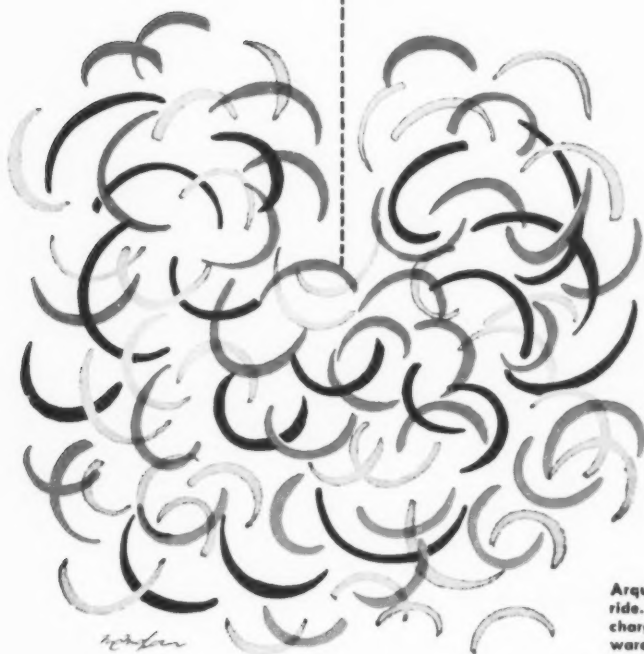
Fabric softeners based on Arquad 2HT compete with nothing you're now making. No soap, no detergent, no water softener can do what Arquad 2HT does!

Softens all fabrics • takes scratchiness out of starched shirts • makes towels twice as fluffy • helps fabrics resist dirt • makes clothes dry faster • makes ironing easier.

Softeners based on Arquad 2HT are easy to manufacture, easy to sell, easy to use—and the market has hardly been scratched!

Send for a free sample of Arquad 2HT and information on formulation. Test it yourself. When you see what it does—you'll sell yourself that "here's a product that's going places!"

Arquad 2HT is distearyl dimethyl ammonium chloride. When it attaches itself to fibers, the polar or charged end of the cation tends to orient itself toward the fiber, leaving the 2 fatty tails exposed to contribute their softening characteristics to the goods.



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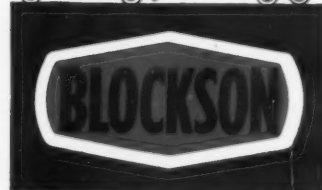
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You can buy all BLOCKSON chemicals in mixed carloads. ONE ORDER does it. ONE STOP delivery. ONE PHONE CALL for any schedule changes . . . carload prices on each chemical. See the list below.

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Rosy character with a green-leaf note

ROSARYL

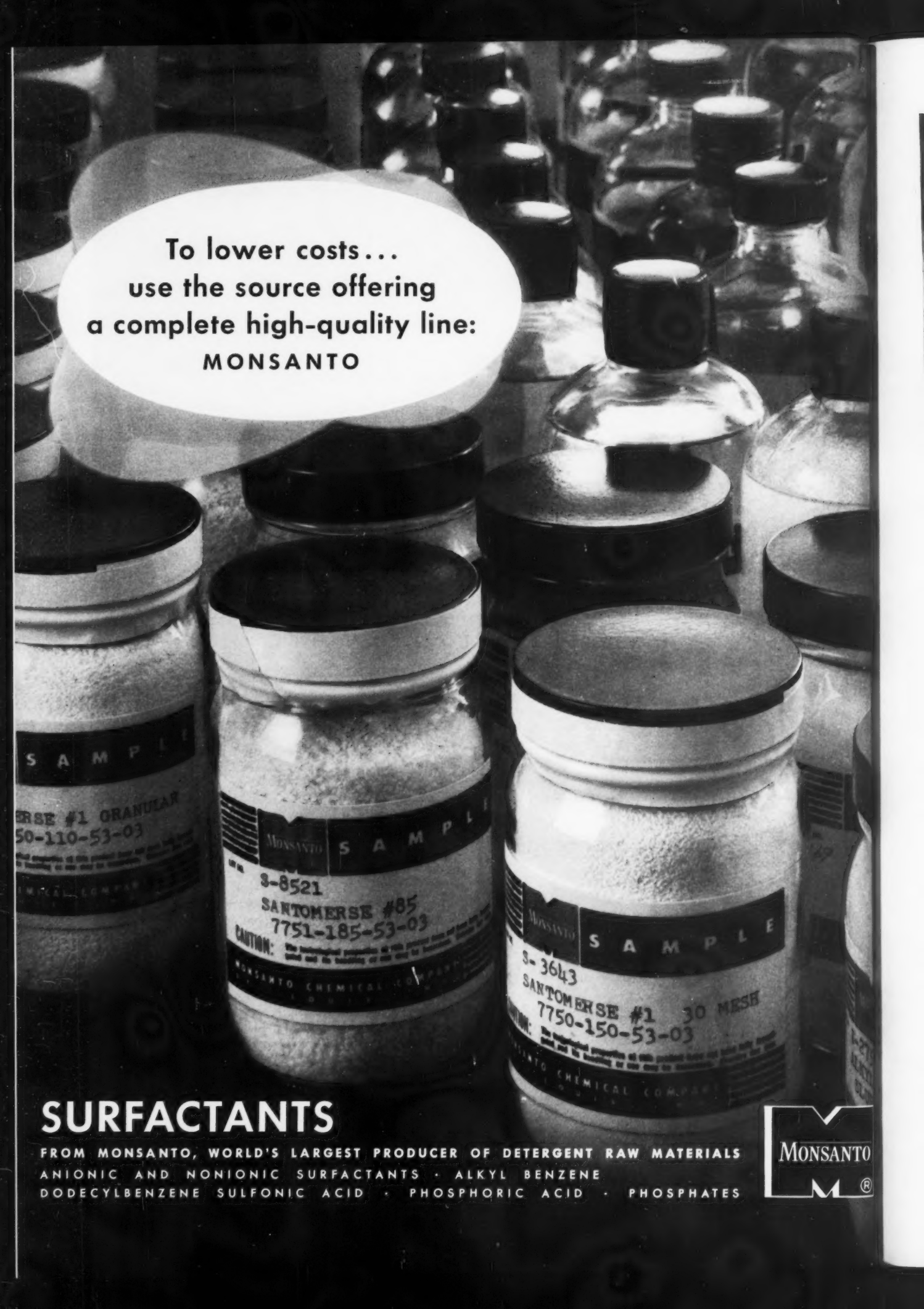
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creating popular
rose-type compositions*

Full body and mellow rose sweetness are seldom found in commercial aromatics. But in Rosaryl*, a diaryl ether, you get both—plus a pungent green-leaf note of the geranium leaf. In creating many rose types, such character imparts a “natural” fragrance and provides power in small measures.

Rosaryl is compatible with all essential oils and conventional aromatic chemicals. It is stable, too, particularly in soaps and cosmetics with pH above 7. Rosaryl is available at all times, stable in price and quality. For a sample and specification data, write THE DOW CHEMICAL COMPANY, Midland, Michigan. Dept. FC 870G.

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- fume depressant?
- surface active agent?
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- an emulsifier?
- acid inhibitor?

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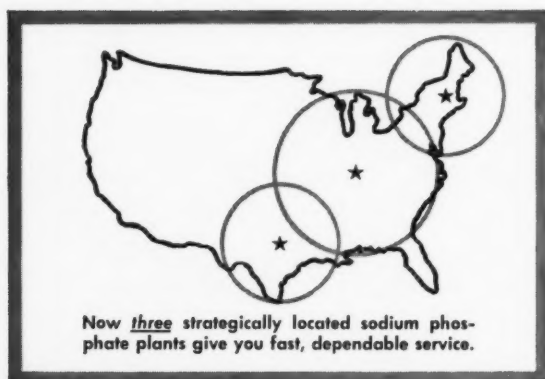
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Evaporation	Not Detectable	
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*helps put research project
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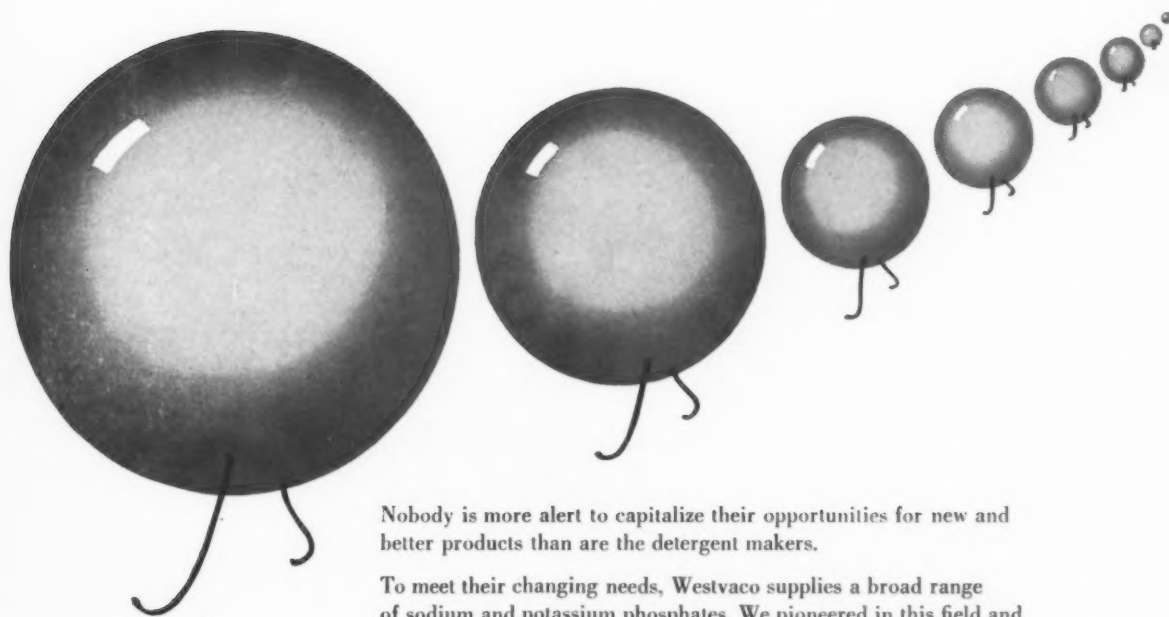
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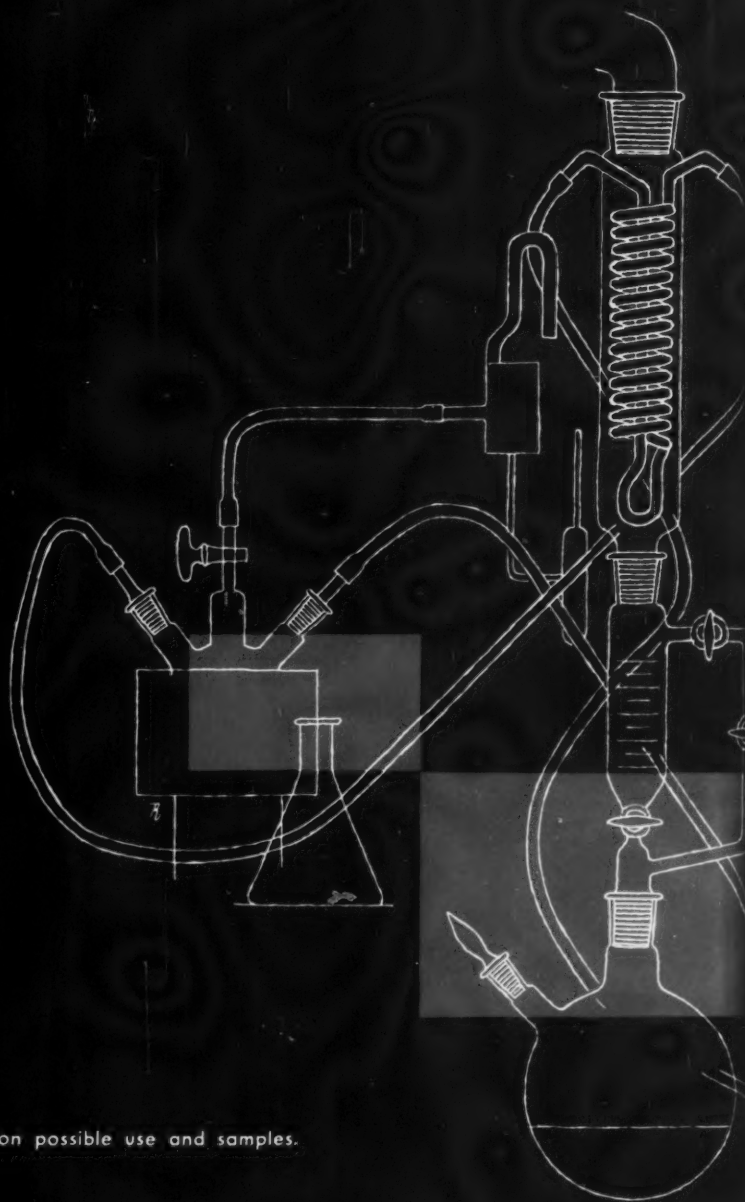
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◀ NEW BLUE "NEWS" is "safe for everything washable" according to its manufacturer, The Purex Corporation Ltd., 9300 Rayo Avenue, South Gate, Cal. Detergent is packed in convenient 1 lb. 2 oz., and 2 lb. 7 oz. packages.


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... in brief


as the editor sees it

 **ENDORSED.** . . . For several years, a few marketers of pesticides, chiefly insecticides, have *implied* that their products are endorsed by the U. S. Department of Agriculture. They do this by stating on the label that the product in question is based on a "formula" recommended by USDA or that the ingredients are approved by USDA. Claims of this type are assumed to imply that the product itself is endorsed by USDA. This, of course, is not the case. USDA endorses no branded insecticide or other pesticide.

To stop this practice, USDA proposes a change in the regulations under the Insecticide, Fungicide and Rodenticide Act that any product is considered misbranded if the label carries "any statement directly or indirectly implying that an economic poison or device, or any ingredient or constituent element thereof, or combination of ingredients, is recommended or endorsed by any agency of the Federal Government." The law has always forbidden label statements to the effect that a product is registered with USDA.

On the basis that label implications of USDA endorsement are in fact an evasion of the spirit of the law, the Board of Governors of the Chemical Specialties Manufacturers Association recently went on record as wholeheartedly approving this new proposed regulation. Its adoption seems a foregone conclusion. Manufacturers and marketers should be guided accordingly.

* * * * *


 **PILFERAGE.** . . . The statistics tell us that there are mostly honest people in the world, that the percentage of crooks is small. After kicking around the business world for many years, we're inclined to disagree. Almost every factory in existence manufacturing small items, those things which can be easily concealed on the person, has been plagued by thieving em-

ployes. Shoplifting in regular stores is more widespread than management likes to admit. Chain stores lose four to five per cent per annum of their profits to small-time thieves. Small items, like razor blades, cigarettes, cosmetics, etc. are usually placed immediately adjacent to the checkers' counters to avoid pilferage.

Now we note with keen and unusual interest that drug stores to meet the competition of the grocery chains in numerous items, plan to adopt the supermarket idea. Our guess is that because of the nature of the retail drug business, the many small packages easily concealable, that these drug supermarkets will be robbed blind. We doubt that they will be able to stand the gaff of thievery. We believe that the percentage of light-fingered "customers" will be that large.

Some of the Pollyannas among our readers may be a trifle shocked at our lack of faith in our fellow man. But it's based on years of close observation and experience. Show us a factory that doesn't have pilferage and you can count on it that they make locomotives, buses or something not stealable.

* * * * *

 **APPROVED.** Seventy-two brands of toilet soap recently were evaluated by Consumers Union and all were rated acceptable. Their quest revealed over 400 brands on the market. The brands tested run from the so-called coco-castile and floating soaps all the way up to the expensive, fancy-dan varieties put out by the leading perfume houses. They were rated acceptable in order of price ranging from 29 cents up to something over seven dollars per pound. All brands were rated equally acceptable as skin cleaners and hence were approved.

Strange as it may seem, Consumers Union admits that the new type deodorant soaps may have some merit. They say that their own research

TOMORROW'S PRODUCTS TODAY...THROUGH ENJAY PETROCHEMICALS



Basic raw materials for DETERGENTS that get clothes cleaner—faster!

As every housewife knows . . . getting clothes (or dishes or anything) bright and clean isn't half the chore it used to be before she started using today's super-cleaning detergents.

And vital ingredients in the manufacture of these new detergents are Enjay Tridecyl and Ethyl Alcohols and Enjay Tripropylene and Tetrapropylene. Other petrochemicals from Enjay—one of the world's foremost suppliers—play an important role in the manufacture of many other exciting new products for modern living.

The facilities of the famous Enjay Laboratories have just been enlarged to better serve you . . . in finding new ways that Enjay petrochemicals can help you. Call or write for additional information.

Enjay offers a widely diversified line of petrochemicals for industry:

ALCOHOLS & SOLVENTS: Lower Alcohols, Oxo Alcohols, Ketones and Solvents; OIL & FUEL IMPROVERS: Detergent-Inhibitors, V-I Improvers, Oxidation Inhibitors; CHEMICAL RAW MATERIALS: Olefins, Diolefins, Aromatics; ENJAY BUTYL RUBBER & VISTANEX.



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with deodorant soaps "indicates that their regular use may be expected to retard (but not eliminate) bacterial growth and thus diminish body odor somewhat more than . . . ordinary soaps."

They dig the needle deep into soap advertising. They tell us that "beauty, romance, glamor and social position" await us at the corner drug store. They poke a little fun at the new synthetic toilet bars which contain "that magic new ingredient—soap."

As for castile soap, they tell us that the Federal Trade Commission has ruled that any white soap "which is pure may be called castile." Frankly, we didn't know the FTC would admit to this fact. We were of the impression that this definition was based on a federal court ruling, sustained upon appeal.

Consumers Union is to be commended for trying to educate the housewife in her soap buying habits. For thirty years or more this has been tried upon occasion and nobody yet has ever got to first base as far as we know.

* * * * *



NEEDED? . . . The multiplicity of new chemical specialty products coming on the market is somewhat staggering to the casual observer sitting on the sidelines. Often we get the feeling that manufacturers of certain products are too close to the woods to see the trees, that they have brought out products for which any real need is indeed questionable and that they either ignore or are not aware of this fact.

Granted that many of our biggest sellers among household products were not even on the market ten years ago. This is particularly true in detergents and some chemical specialties. The changing scene constantly brings a need for new things. But we question that it brings the need with the machine gun rapidity with which new products have been marketed during the past year or two. The short market life of innumerable products bears mute witness, we feel, that many products are brought to market which should have been eliminated in the laboratory.

Is there a real need for this product? Can it be sold in competition with similar products both on a price and quality basis? These and a few other questions might well loom larger before

new products are rushed to market, many of them to fall flat on their faces. A genuine need is vital. Lacking it, no product can succeed. But how many marketers convince themselves in advance that their product will sell without any real basis for this belief outside of their imaginations and hopes. Guessing about markets can be expensive. Only the bright searchlight of fact can unearth the cold truth. Is the product needed? Too many we have seen of late obviously are not.

* * * * *



NEGLIGENCE. . . . On the subject of accidental poisoning of children by household chemicals and drugs, the pot continues to boil. We note an increase of publicity in newspapers, warnings to housewives and mothers, stories by feature writers and columnists, most of it sensible publicity of the educational type. The keynote is as it should be,—keep polishes, cleaning fluids, ammonia, disinfectants, perfumes, bleaches, drugs out of the reach of children. From Dr. Harold Jacobziner, head of New York's Health Department Poison Control Center comes the suggestion for a periodic check of the home "with a fine tooth comb" to find dangerous items and to put them out of the reach of children.

Elsewhere in this issue is published a letter commenting on the poison problem which mentions ". . . the loud voice of the A.M.A. which in the past has not always been conspicuous for common sense." But the letter goes on to say "We would not have the current wave of proposed labeling legislation if the chemical specialties industry had not been negligent, or even callous." This we consider an eminently unfair accusation. The industry has not been negligent. It and its trade associations have done and are doing just about everything possible to solve this problem. Nor has it been callous. It has and is cooperating with every possible agency, government or otherwise, to find the answer.

Quietly, the industry has been working on the problem for years. All of its findings point to the careless or ignorant parent as the key to the puzzle. And that means education, publicity, and more education. Poison labels are only incidental. Parental education is paramount. Not negligent nor callous manufacturers, but the negligent parent is the hub of the problem.



LOW-FOAMING TRITON CF-10 in alkaline formulation prevented spotting and streaking when this glass was washed and rinsed in a dishwasher.

COMPETITIVE DETERGENT in a similar formulation caused unsightly spotting when the glass above was washed and rinsed in the same dishwasher.

End Spotting and Streaking with TRITON CF-10

The ability of TRITON CF-10 to provide high detergency and clean rinsing is demonstrated convincingly in the above photograph. Both glasses are specimens of glassware used in our laboratories for detergency experiments. Both specimens were washed and rinsed the same way, but only the one washed with the formulation containing TRITON CF-10 dried spotlessly clean.

TRITON CF-10 reduces surface tension to such a degree that it promotes thorough rinsing. It also prevents excessive foam formation, even during prolonged violent agitation.

Write today for complete data on TRITON CF-10 and its application in low foaming detergents that wash and rinse clean.

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as the reader sees it . . .

Labeling Solution

Editor:

We feel certain comments are in order in regard to the editorial, "Fear Complex," which appears on page 35 of the August issue of *Soap and Chemical Specialties*.

Granted that in the discussion of every problem—and the proper labeling of household chemicals is a problem—there will be advocates of extreme positions, including the loud voice of the American Medical Association, which in the past has not always been conspicuous for its common sense. Granted also that it is impossible to prevent accidental poisoning and burns regardless of the label wording. Still, if our system of free enterprise is to survive and grow, then industry must recognize that it has moral obligations to the public as well as the economic obligation to turn a profit. We would not have the current wave of proposed labeling legislation if the chemical specialties industry had not been negligent, or even callous, in this respect.

On the other hand, you are,

of course, right that to smear the word "Poison" over every bottle of household cleaner or fly spray would soon make Mrs. Housewife so indifferent that she would not use the necessary caution even in the handling of really corrosive materials.

Yet, it seems to me that there is a reasonable solution to the problem, and, therefore, I would like to submit for discussion in *Soap and Chemical Specialties* the following proposal:

1.) That all attempts to extend the provisions of the Federal Caustic Poison Act, and of the Federal and various State economic poison acts to include products not now covered by such acts be discouraged in every possible legal way, *except*, to include such products which because of the high level of chemical activity ought to be included, such as products containing more than five per cent uncombined cresylic acid, or corrosive alkylamines, such as in wax removers.

2.) That all other household products and institutional and industrial housekeeping prod-

ucts be labeled (insofar as is applicable) with the following standard statement:

"Notice: This product is entirely harmless when used as directed. However, no effective (cleaner, polish, insecticide, etc.) can be harmless when misused. Therefore, keep this bottle away from children at all times. If accidentally spilled on skin, do If accidentally swallowed, do and then call a doctor."

More children are killed every year in our country by accidents involving household chemicals than by automobile accidents. The industry has a moral obligation to save as many as possible in the future. Most of the victims could be saved if the proper measures are taken at once, i.e., before a doctor arrives or can be reached. It seems that a statement substantially as above would not scare anybody from buying the product, but would be of the greatest possible value in the vital minutes between the accident and the arrival of medical help.

Should we wait until the government forces us to do our duty, and maybe in a much more obnoxious way?

William H. Sachs,
Atlanta, Ga.

(Turn to Page 203)

From the tread of a bulldozer, S. J. Sisselman tacks up sign marking corner of Dubois St. and Union Ave. on Industrial Parks, Inc., site in East Rutherford, N. J. New detergent plant of DuBois Co.,

Cincinnati, is being erected in the newly developed industrial area on Route 17. Mr. Sisselman is vice-president of Industrial Parks, Inc., New York realty firm developing the area.

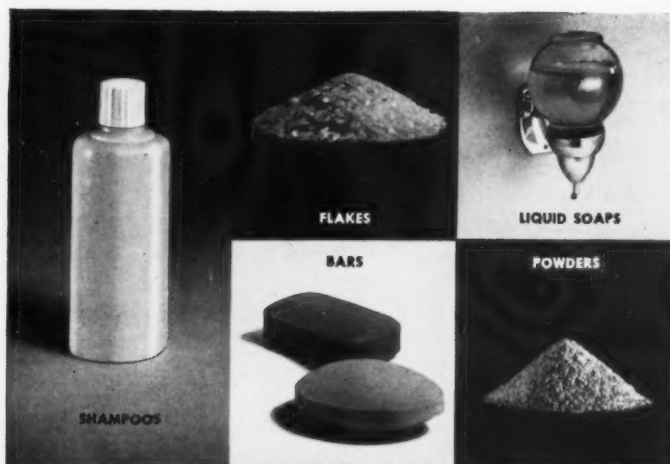




VERSATILE VERSENE

(The tetrasodium salt of EDTA*)

**ends product variability
in all types
of detergents**



Improves processing and performance under most water hardness conditions

The complete stability of the Versene® products, together with their ability to inactivate practically all troublesome metal ions in solution, has made them invaluable in the manufacture of soap and synthetic detergents. Used singly or in combination, they actually form new compounds with metal ions which remain chelated in hot or cold, acid or alkaline solutions. Equally advantageous, Versene products come in several forms—liquid, powder, beads and flake—for easy incorporation into detergent bars, powders, flakes, liquids; maintenance, metal, household and laundry cleaners.

In liquids—By including Versene, shampoos and other liquid formulations can be prepared with a clarity that lasts over long periods. In fact, you get the same clarity distilled or rain water makes possible, but you use plain tap water! Calcium and magnesium ions become harmlessly

locked up to simplify filtration and eliminate the need for chilling. In addition, quantities of Versene, over and above the amount needed to chelate hardness and other trace metals, impart “built in” protection for concentrated liquid soaps. Colors come out light and remain light. There’s protection against rancidity, and dispensing equipment won’t clog.

Just how much Versene is needed?

As an example, take Versene 100, the liquid form and the most economical. A concentration of 0.10 to 1% assures product stability for shampoos and also increases lathering properties. Or consider the use of Versene in hard soaps.

In hard soaps additions can be made at the mixing machine or in the kneader at concentrations of 0.50 to 1% for liquid Versene, or 0.25 to 0.50% for Versene powder (based on

soap content). Whichever form of Versene is most suitable, the results are the same—you get metal ion control in processing and end-product use.

Now, with Versene, how easy it is to produce a bar soap that is protected against rancidity and spotting due to trace metals . . . that leaves no bathtub ring . . . that can resist water of 10 grains hardness! How easy it is, in fact, to gain a competitive edge with Versene in most any type of detergent you might manufacture. It will pay you to look into versatile Versene by requesting samples and technical data, today. For more information on the chemistry of chelation, Dow chelating agents and their uses—contact your Dow sales office for our booklet, “Keys to Chelation”. Or write us direct. THE DOW CHEMICAL COMPANY, ORGANIC CHEMICAL SALES DEPARTMENT, Midland, Michigan, Dept. CA 1307A.

* ethylenediaminetetraacetic acid

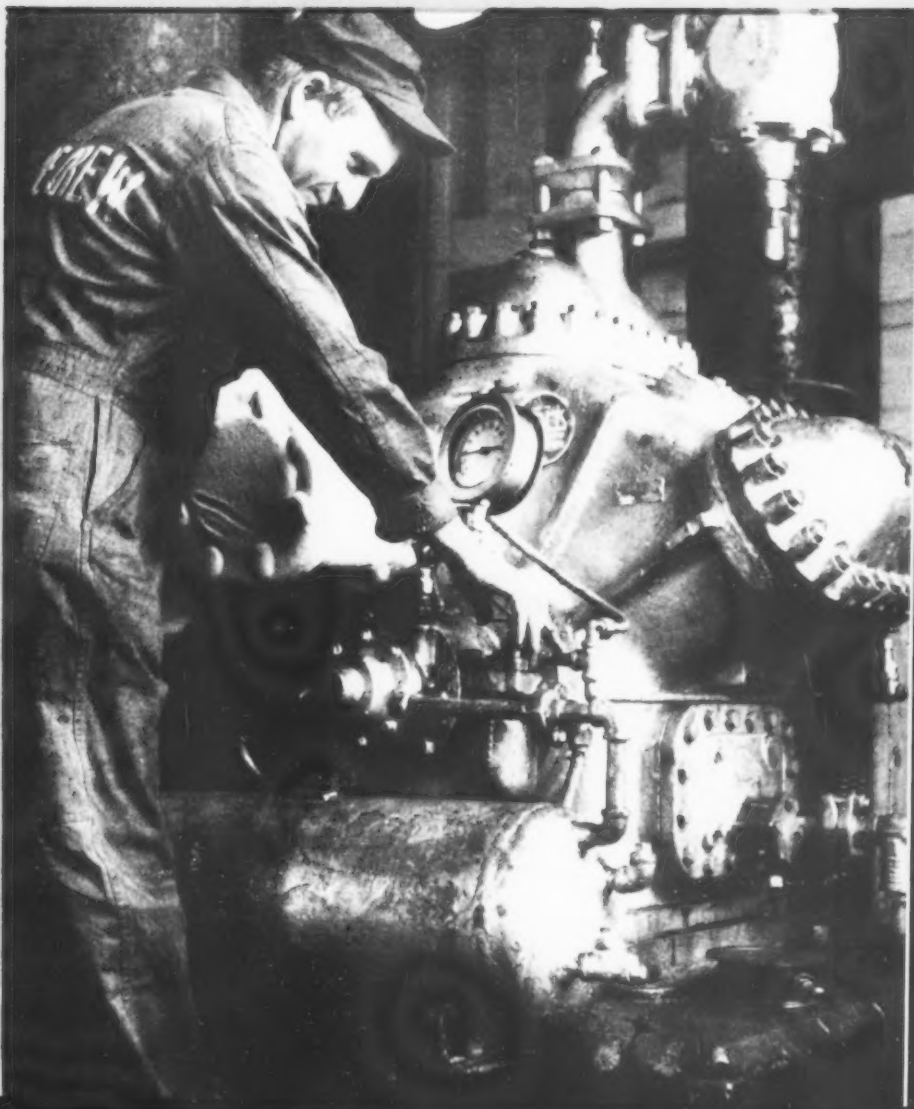
YOU CAN DEPEND ON

DOW

Detergents... Cleansers... Soaps...

Dodecylmercaptan, from which Pennsalt's brand of nonionics is made, is manufactured by unusual low temperature process. Refrigeration compressors used to make dodecylmercaptan shown below. See Page 49.

Aerosols
Detergents
Dishwashing compounds
Floor scrubs
Glycerine
Hand cleaners
Laundry soaps
Liquid soaps
Metal cleaners
Potash soaps
Scouring cleansers
Shampoos
Shave products
Soap powders
Starch
Steam cleaners
Medicinal soaps
Textile detergents
Toiletries
Toilet soaps
and other detergent
and soap products





Once
in
a
Blue
Moon...

Once in a blue moon a really fragrant synthetic arrives—Lilial—Givaudan's contribution to floral naturalness! Lilial—a pure aldehyde with an intense and diffusive note that recalls linden blossoms, with the emphasis on fragrance, represents a new high for synthetics in perfume elegance.*

Lilial has remarkable tenacity and lends unmatched florality, intimate warmth and unique naturalness to almost any composition. On a perfume blotter it lingers for more than a month.

Unusually stable in soap, *Lilial* is long-lasting and diffusive. It is available in quantity—at a moderate price. No one synthetic has ever presented more desirable qualities to the perfumer.

Samples and technical data are available upon request.

*Trademark



GIVAUDAN-DELAWANNA, INC.

330 West 42nd Street
New York 36, New York

Anyone for

PREMIUMS?

THE subject of my talk "Anyone for Premiums?" is an obvious takeoff on that old rallying cry "Anyone for Tennis?" I have heard the athletic version used most often at social gatherings where it really had nothing to do with playing the game of tennis but instead was meant to inject new life in a party which was going dead. In other words, this facetious remark is a more or less last ditch attempt to alleviate group boredom.

Here's where the similarity strikes me in the way a great deal of so-called "premium planning" is done. Too often, when other promotional devices have been reviewed and discarded, someone will come up with "Why don't we use a premium?" simply because all other avenues have been explored and found wanting. In substance, the premium becomes a lame excuse for having some kind of promotional activity. It is a last resort, the product of tired minds who have collectively reached the end of the rope, after several futile attempts to solve the problem via other means.

Let's tune in on specific examples: First, we have assorted approaches which, however, have a common affliction—*Budgetitis*. In this category the thinking usually runs along one of these lines:

1. "We have only enough money to spend 10c for an in-pack premium, what can we buy for that?"
2. "Gentlemen, let's face it, we are over-spent on our promotion budget but we still need

By Jack Doran*

Promotion Services Director
Lever Brothers Co.
New York

some gimmick if we are going to make quota. How about a self-liquidating premium? This won't cost us anything and if we come up with the right kind of value, we might even be able to make a little money."

3. "I happen to know that the Jones Company is stuck with premium item X. I'm sure they will make us a bargain price on the quantity we need for this promotion."
4. "I think we ought to use premium item X since we don't have to commit ourselves for any minimum quantity." I could go on and on, but I'm sure that you get the point.

"Copy-Cat" Approach

ANOTHER example of real smart premium planning is the copy-cat approach. More often



than not this is based purely on exaggerated success stories fed by suppliers or the heavy advertising and publicity run in support of a particular premium offer. There are, of course, premium programs which bog down in the execution phase but many more failures can be traced back to the initial planning stage. Before considering such matters as premium selection, costs, details of offer, etc., there are these basic questions that need to be answered:

1. Will the use of a premium fit the brand's overall marketing concept?
2. Will a premium operation be compatible with the advertising strategy? For instance, some very well thought out premium offers have failed dismally because they required strong print advertising support. This support was not forthcoming simply because of rigid long term commitments in television and/or radio, making it impossible to divert sufficient money to the right media.
3. Is the selling force equipped to promote the offer to the trade and follow-through with the right kind of instore merchandising activity? This could mean that salesmen who have been conditioned to working on price-off package deals, couponing, and the like, find it difficult to get much mileage out of a more "intangible" promotion device, for instance, a mail-in premium offer. Unless they are properly trained and enthused to get out and do their

* An address given before the Premium Advertising Conference, New York, Sept. 10, 1957.

Premiums can serve a useful function in building product sales, providing you follow these eight basic rules.

part of the job, the results are liable to be disappointing both in terms of sell-in against the offer and getting all-important dealer tie-ins and display activity.

These then are some of the broad strokes, but it is only *after* we have thoroughly examined and evaluated the strategic areas that we can confidently move on to a consideration of the premium situation per se.

If the facts in the case should favor the use of premiums or, at the very least, show no valid reason why they might not work, then our job from this point on becomes a lot easier.

The reason is quite simple. The spade work which we have done inevitably brings to light the objective which the premium program must attain if it is worth undertaking. And, let me repeat, this objective must be part and parcel of the immediate and long term goals that have been set for the brand. Once we know what we are setting out to accomplish, we can then cut the cloth to fit the pattern.

Objective Must Be Clear

THE objective must be clearly labeled as such and spelled out in detail. Generalities won't do because if you just put down something like "expand distribution" or "sample new users," you will run into all kinds of problems and controversy when the time rolls around to do the post-mortem evaluation.

Here are examples of objectives which were sharply defined at the outset:

1. *Objective:* Clear the way for new package introduction. A company was about to make a radical change in package

design, accompanied by a minor change in product, and was faced with the problem of cleaning out existing trade inventories. After considering all aspects of the situation, it was decided that the most economical and efficient way to move out current stocks was to offer a free mail-in premium. This involved no money, merely multiple box tops as proof of purchase.

2. *Objective:* Get extra in-store displays. A non-food product, with no particular holiday appeal, had to find a way to get special display treatment during the month of December. By using a toy, which had been pre-tested for popularity, this manufacturer was able to get its share of island end displays. The premium was used in these displays and, while the actual returns were only fair, the primary objective of the promotion was achieved. And, more important, total consumer movement went up as a direct result of greater point-of-sales exposure.

Premium Selection

WE NOW come to the selection of the premium itself. Again our prior analysis of the brand's overall problems and opportunities gives us direction. We know offhand what kind of item will fit the bill; its primary appeal, whether adult, men, women, teenagers, kids, etc., whether there are any peculiar socio-economic factors involved, the makeup of the offer, whether it should be a free factory pack, a self-liquidating pack, a sendaway completely self-liquidating, a free mail-in and the like, whether there is any particular sea-

sonal appeal, geographic variations and so on.

After we have lined up the maximum number of possibilities, we can then proceed to pare these down to not more than five or six candidates to be tested. Judgment prevails in this process of elimination. Costs, problems of handling, mailing, packing, minimum commitments and availability are all considerations.

I do not propose to get into a detailed discussion of the techniques involved in determining consumer preference of premiums. I would like to point out, however, that this kind of research, in the main, could stand a good deal of improvement. Some companies still stake a major and costly premium venture on the basis of taking an office poll or soliciting the advice of their wives. Then they wonder why the premium was a flop.

In some instances even a properly conducted consumer test is not enough. Before going out on a limb on a large-scale premium promotion, limited market tests are some times necessary. Fortunately, most of the veteran premium users are able to save the time and expense in taking this extra testing step except in those relatively few cases where they do not have available track records to guide them in going right ahead with an expanded program.

We must proceed with caution, however, whenever past performance is being used as a guidepost in arriving at future premium decisions. There are too many variables, and the competitive tempo is such that what happened yesterday may not be at all applicable to today's situation.

Premium Planning Tips

TO SUM up, here are a few tips on premium planning that may well prevent those "morning after" blues:

1. Take a careful look at the brand's overall marketing picture.
2. Check into the premium's re-
(Turn to Page 203)

Thioether Nonionic Surfactants

Appropriate members of this series of surfactants function well in non-oxidizing and alkaline media as detergents, emulsifiers, wetting, penetrating, dispersing and foaming agents. Compatible with all ordinary anionics, cationics, as well as nonionics.

By John L. Eaton and W. Gilbert Kayser, Jr.*

Whitemarsh Research Laboratories
Pennsalt Chemicals Corp.
Philadelphia

THE class of nonionic surfactants to be discussed now is characterized by the presence of a thioether linkage joining a polyglycol chain with an alkyl radical. Such agents of commercial importance today are characterized by highly branched alkyl groups containing roughly 12 to 18 carbon atoms. Thus, in a formal way, they closely resemble their oxygen-linked analogues derived from higher oxo alcohols and ethylene oxide. The considerable differences between oxygen and divalent sulfur are reflected in certain performance differences to be detailed a little later.

Thioether type nonionics were first synthesized and investigated in Germany during the 1930's. The basic patents were assigned to IGF by Schutte, Schoeller, and Wittwer. Their products were derived from relatively high price normal (primary, straight-chain) mercaptans. Partly because of the high cost of the raw materials, these products failed to gain any industrial significance.

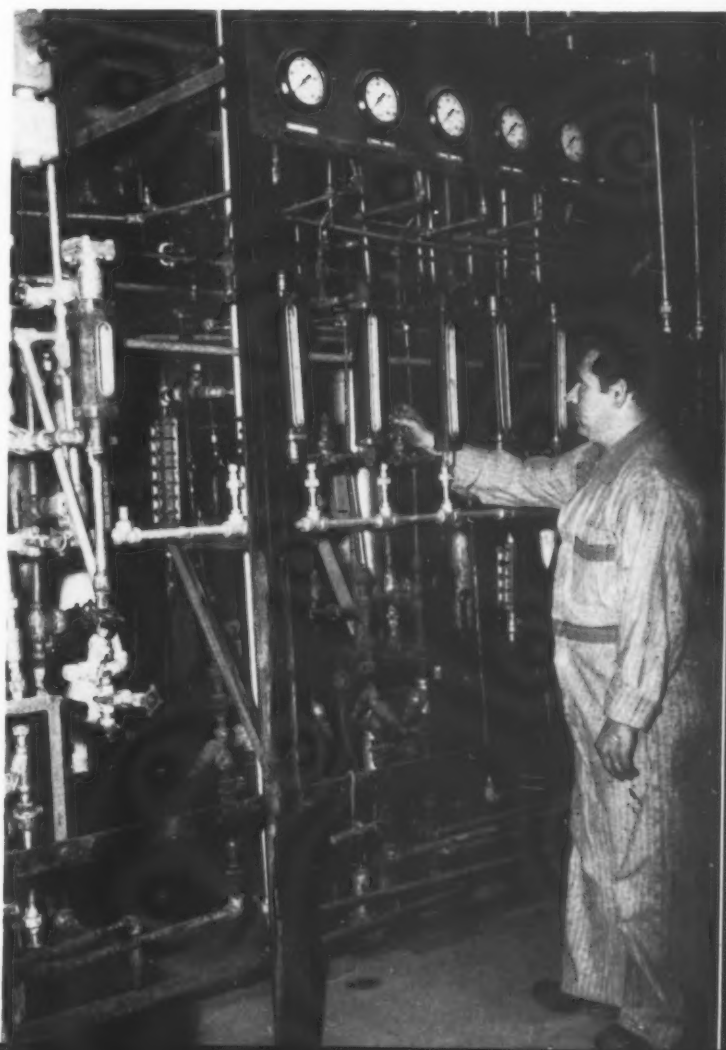
During the early 1940's Sharples Chemicals Corp. and Phillips Petroleum Co. independently developed economical processes for converting polymer olefins into the

corresponding mercaptans. These were found to undergo ethoxylation readily to provide a family of nonionics having excellent wetting, emulsifying and other so-called surface active properties.

Two companies are currently

engaged in the commercial scale production of the alkyl-polyglycol thioethers, Pennsalt Chemicals Corp. (via merger with Sharples Chemicals) and Monsanto Chemical Co. The respective product lines are the "Nonics"* and the

Operator making adjustments in flow rates in production of "Nonic 218" alkyl-polyglycol thioether at Pennsalt plant in Wyandotte, Michigan.



*Paper presented during 43rd midyear meeting Chemical Specialties Manufacturers Assn., Chicago, May 21, 1957.



One of the many uses of nonionic surfactants is as major component in high quality shampoos.

"Steroxes".* For example, Pennsalt produces "Nonics 218," "234," "259" and "260"; Monsanto offers "Steroxes No. 5," "No. 6," "SE," and "SK." Numerous sub-commercial products are also available for evaluation.

Chemical, Physical Properties

THE thioether nonionics are, or can be, full-fledged petrochemicals. Thus one sequence of reaction steps may be outlined as follows:

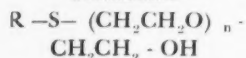
- I (a) Petroleum cracking, monomer olefin
- (b) Monomer olefin polymerization, polymer olefin
- II Sour crude desulfurizing, hydrogen sulfide
- III Polymer olefin sulphydration, mercaptan
- IV Ethylene oxidation, ethylene oxide
- V Mercaptan ethoxylation, Nonics Steroxes

Of course, it is recognized that there are alternative routes to some of the listed intermediates, which serves to point up the favorable situation regarding raw ma-

terial supply. Tri-isobutylene and tetrapropylene are the only commercially important olefin polymers for processing into thioether type nonionics. Note that the hydrophobic (alkylmercapto) fragment of these nonionics, which distinguishes them from the other major classes, is derived from plentiful and relatively inexpensive intermediates being produced in large scale petroleum refining operations. The inherent low production cost of the alkyl-polyglycol thioethers has not been fully realized at the present market volume. It is believed that more extensive utilization of these excellent surfactants would justify expenditures for geographical integration with raw materials sources. This might well permit price schedules below the common level now prevailing for the alkyl phenol, alcohol and thioether types.

Returning to the chemistry of the thioether nonionics as it relates to their properties and uses, we refer to the generalized formula below and the specific embodiments of it corresponding to the commercial series of "Nonics."

Generalized Formula, Thioether Nonionics



*It should be noted that these generic trade names also apply to certain nonionics other than the thioether types. In this paper it will be understood that "Nonic" or "Sterox" refers to thioether type surfactants only.

Nonic Series

$$R = (C_{12}H_{25})$$

$$\text{Nonic 218: } N \text{ avg.} = 8.1-9.3$$

$$\text{Nonic 234: } N \text{ avg.} = 7.2-7.8$$

$$\text{Nonic 259: } N \text{ avg.} = 0$$

$$\text{Nonic 260: } N \text{ avg.} = 4.8-5.5$$

Ethox Ratio

THE influence of the numerical value of *n* on general properties is well known and much the same as in the cases of other ethoxylated products covered in the present series of papers. Briefly, higher values of *n* progressively confer more hydrophilic properties, manifested by greater solubility in aqueous systems, increased cloud point (the temperature at which phase separation occurs), and greater tolerance for electrolytes in formulated solutions. Conversely, the lower the value of *n*, the greater is the oil solubility and related lipophilic characteristics.

Early studies indicated that an ethox ratio of nine to 10 (*n* = 8-9) gave a desirable hydrophilic-lipophilic balance for the tertiary dodecyl series from the standpoint of multipurpose usage. This ratio corresponds to "Nonic 218". Many specific uses are better served by different ethox ratios and the tailoring of *n* to a specific use is particularly important in formulating emulsions. For example, kerosene is best emulsified at about *n* = 5, certain silicones at *n* = 9, certain waxes at *n* = 24.

Lower ethox ratios give less foam and, within limits, enhance wetting power with some sacrifice of detergency. The lowest member of the series, "Nonic 259", contains only one ethox unit and cannot strictly be classified as a surfactant. It behaves in some ways like a higher alcohol, which it is, but is more readily emulsified than conventional alcohols and finds some use in this stable emulsified form.

At ethox ratios above about 11, the C_{12} series ceases to be a homogeneous liquid at room temperature. Above about 15 the products are soft semi-solids of soapy consistency with higher members tending toward waxiness.

Thioether Linkage

THE sulfur atom in thioether nonionics is susceptible to oxidation in fairly strong oxidizing environments. Some oxidants likely to be encountered in practice are hypochlorites, chlorine and hydrogen peroxide. The thioether nonionics are normally unsuitable for use in their presence.

Chlorine and hypochlorites are almost instantaneous in their action, causing severing of the sulfur bond as well as oxidation with resulting elimination of surfactive properties. It is feasible that this means of abrupt inactivation could be put to use in industrial systems where foaming, emulsification, etc. must be terminated at a given time or step in an operation. Likewise, an inexpensive chlorine treatment of process effluents containing "Nonic" would eliminate disposal difficulties caused by the discharge of live surfactants. (0.3 lb. Cl_2 will inactivate about one pound of "Nonic 218").

Another practical advantage of the oxidizable sulfur is that it offers a means of quantitative analysis for quality control or other purposes. A fairly accurate and simple volumetric procedure involves oxidation of the sulfur with a bromide-bromate mixture, addi-

tion of excess potassium iodide and titration of the liberated iodine with a standard thiosulfate solution.

Thioether nonionics are unstable in strongly acidic media. Although they may be used satisfactorily in the presence of dilute, non-oxidizing acids, their major field of utility is in alkaline and neutral systems. They maintain full activity even in hot, strong alkali.

The thioether nonionics have much in common with the other main classes of ethylene oxide adducts and particularly those derived

from alcohols and alkyl phenols. Thus they are excellent wetting and penetrating agents at concentrations as low as 0.01 percent, are good detergents for oily and greasy soils at the 0.05-0.10 percent level, and disperse or prevent hard soap deposits effectively. Their performance is impaired very little by hard water.

Although the thioether nonionics are generally similar to the alcohol and alkylphenol types in performance characteristics, some differences do exist. We find that broad comparative generalizations are difficult in spite of an impressive mass of accumulated laboratory data as well as customer (and potential customer) opinion. We can enumerate with confidence the major fields of application in which thioether nonionics are competitive or superior to other types, although we cannot usually predict precise cost-performance data in a specific application within these major fields. The influence of auxiliary components and the particular processing conditions will often tip the scale.

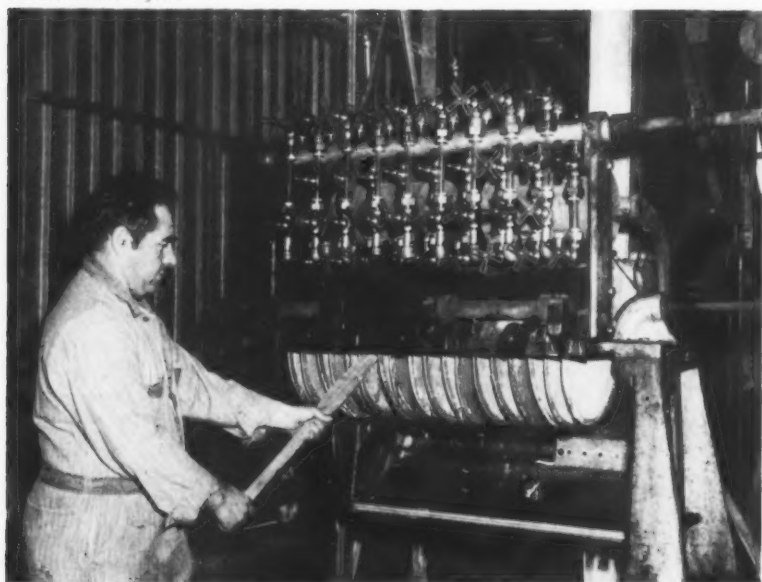
One established generalization is that thioether nonionics of the "Nonic 218" range are superior in grease dispersing power. They also maintain good foaming power at higher oil and grease loadings than, for example, the alkylphenolics, which is a definite plus value

(Turn to Page 115)



Shown above is Pennsalt's Wyandotte, Mich., plants. In foreground is West Plant where "Nonics" and many other "Sharples" brand chemicals are produced. In background is the East Plant, Pennsalt's largest industrial chemicals production unit.

Operator cleaning Sweetland filter used to clarify Pennsalt's "Nonic 218" brand nonionic surface active agent.



Fatty Acid Soaps in Specialty

Increasing amounts of fatty acids being used by soap makers to produce improved, cheaper and faster, more easily made finished soaps.

SINCE World War II, the soap maker has come to use an increasing amount of fatty acids—the chemical “building blocks” of fats and oils. This upsurge in fatty acid use may be attributed to several factors. Among them are major technical advances in the hydrolysis or splitting of fatty oils leading to the economic recovery of fatty acids of relatively high purity. There are important reasons also from the fatty acid buyer's point-of-view. Soap making occurs much easier and faster. Savings in time and in steam consumption result. Equipment generally is less complex and costly. Conversion of fatty acids into soap is easier to control. The reaction is faster and more complete and the resulting soaps are better finished, more neutral, and generally have a much wider range of moisture content. The yield of anhydrous soap is greater and, for the small soaper, there is no problem of glycerine loss or recovery.

Although the fatty acids cost more than whole oils, they are available from many reputable suppliers and in numerous forms of refinement. Their uniformity permits closer and more rigid specifications to be set for the finished product. They offer the soaper a wide choice of materials tailor-made to his needs. He can select just the acids that will impart the specific properties needed in his finished product and reject the other fatty acids that normally are included with the glyceride oil. And, finally, the soap maker still has the choice of soda or potash as a saponifier in order to vary the

character of his soap. In fact, the fatty acids can be neutralized with sodium carbonate under rapid agitation at higher temperatures. The employment of fatty acids also permits use of a fourth type of saponifier — the ethanolamines — producing somewhat unconventional soaps with several unique and beneficial properties.

There are several revealing articles on the advantages of fatty acids for soap making and on their commercial uses. (1, 2)

The refinement of fatty acid production has occurred concurrently with the continuing advance in technology of the surface-active agents. A great many of these agents, promoting detergency, wetting, penetration, dispersing and emulsification, are based in part on fatty acids. A number of other basic products derived from fatty acids are now marketed for specific purposes in chemical specialties. Among them are fatty acid amines, acetates, nitriles, amides, alcohols and others.

Total fatty acid use last year (1956) in industry was close to 390 million pounds. The soap industry is expected to use nearly 26 million pounds in 1957. Consumption by synthetic detergent cleaning agents has increased surprisingly, and is expected to reach 40 million pounds this year — 1957, or ten times the amount of 1954. (3)

This review of fatty acid use will confine itself to soaps in the industrial and specialty fields. Specialty soaps may be considered as those that are uncommon or designed for a particular purpose.

Since fatty acid-based surface-active agents are replacing soap in many formulations and are playing such an increasingly important role in the above-mentioned fields, it is only realistic to include at least mention of the various types of fatty acid-based surfactants and some of their new uses.

Liquid Soaps

LIQUID soaps find considerable use as hand cleaners dispensed in public, industrial or institutional washrooms, and also as floor scrub soaps. With the hand cleaners, the emphasis is on the fatty acids of coconut origin because of their generous lather. Stripped or topped coconut acids—largely lauric acid with the lower and higher molecular weight components removed—are considered the best base. Caustic potash is the saponifying agent. Partial substitution may be made with corn, palm, soya, olive foots, and to some extent distilled red oil (oleic acid). The use of these vegetable fatty acids offers certain economies and tends to reduce irritation, for pure coconut fatty acid liquid soap is said to irritate some skins. Concentrations of around 15 per cent real (anhydrous) soap prevail in the market. A typical formula (4) is:

	Parts
Coconut oil fatty acids	120
Soya fatty acids	30
Potash solution (50° Be')	90
Distilled water	760
Potassium chloride	10

The fatty acids generally going into floor and scrub soaps are derived from cottonseed, tall oil, or soya. The acidulated foots from the alkali refining of these oils for edible purposes are also used, as

Cleaners

By Willis J. Beach

Sugar Beet Products Co.
Saginaw, Mich.

are low grade red oil, and tallow fatty acids. These raw materials are economical and their odor can be masked by pine oil or other odorants. Color is not of prime importance. These fatty acids are low foamers but by addition of small amounts of compatible syndets sudsing can be boosted as required. The cottonseed fatty acid soaps are said to be somewhat more stable than those of soya fatty acids; however, the soya soaps tend to be more soluble.

Floor scrub soaps vary in consistency from liquids to soft gels and are saponified with caustic potash. Formulas (5) illustrative of such soaps with a 15 per cent real soap content might be:

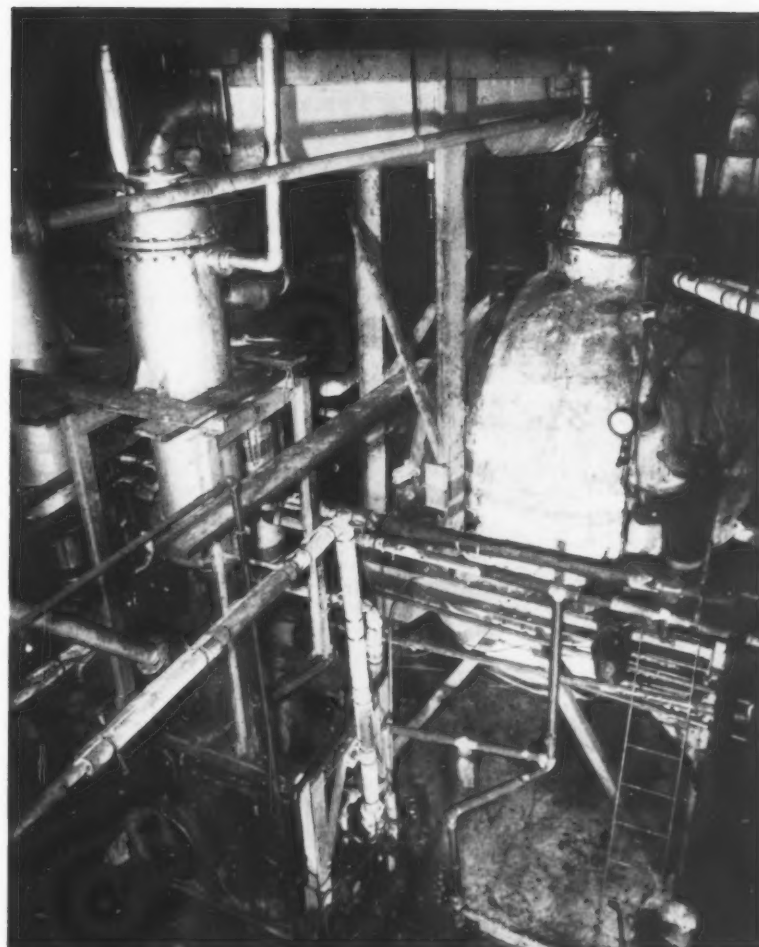
Parts	
Soya fatty acid (sap. value 195)	13.7
Caustic potash, 100%	2.67
Water, to make	100.00

or:

Parts	
Cottonseed fatty acid (sap. value 200)	13.2
Caustic potash 100%	2.64
Water, to make	100.00

Consistency and transparency can be increased by addition of about five per cent pine oil. The pine oil is also claimed to aid in grease removal but some feel that it may adversely affect asphalt or rubber tile.

Most of these floor soaps can be made germicidal by the incorporation of about five per cent of one of the phenylphenol or other suitably modified phenol germicides. Other additives are now being used in the soaps to impart greater viscosity and also to increase detergency. Among them are derivatives and salts of methyl cellulose and the coconut fatty acid



In electrically heated stills, such as the installation shown above, different fractions of fatty acids are boiled off at closely controlled temperatures. Resultant distilled fatty acids are sold either straight or mixed to specifications to industrial consumers, including soap, detergent and other specialties manufacturers.

—ethanolamine condensate types of syndets.

As a matter of fact, liquid all-synthetic floor and wall cleaners can be made solely from these amide condensates or from their mixture with soap. A suitable formula (6) said to offer a non-corrosive, high viscosity, clear concentrate with intermediate foaming characteristics and freedom from film formation is:

	Per Cent
Coconut diethanolamide 100%	7
Trisodium phosphate	2
Triethanolamine alkylaryl sulfonate	4
Water	85
Sodium tripolyphosphate	2

For heavy duty floor cleaning, including wax stripping, fatty acid based syndets of the alkanolamide type specially developed for

higher phosphate tolerance are available. A floor soap formula to illustrate this use is:

	Per Cent
Alkanolamide condensate	8.0
Sodium tripolyphosphate	5.0
Trisodium phosphate (.12H ₂ O)	12.0
Water	75.0

F. A. Soaps in Disinfecting

A GOOD share of the disinfecting and sanitizing cleansers of today are formulated with quaternary type compounds together with non-ionic surfactants and alkaline salts. Solubilized iodine types are gaining prominence. However, the use of fatty acid-based syndets in the iodine formulations is small.

Considerable fatty acid, however, is used in the form of liquid soaps to solubilize and emulsify the modified phenol in some of the newer phenolic germicides. Coco-

nut oil fatty acids, soya and other vegetable fatty acids may be used in the form of their potash soaps. Formulas (8, 9) of this type are:

	Pounds
Coconut fatty acids	126.5
Potash lye 38° Be'	70
Ortho-phenylphenol	159
Chloro-2-phenylphenol	127
2-chloro-4-phenylphenol	46
Isopropyl alcohol 91%	37.5
Caustic soda (solid)	20.5
Soft water	71

and:

	Per Cent
Coconut fatty acids	15
Alkyl aryl sulfonate	4
Sodium tripolyphosphate	2
Ortho-benzyl para-chlorophenol	4
Water	75

The manufacture of pine oil disinfectants requires substantial quantities of potash soaps based on coconut oil, and other vegetable oil acids, tall oil, and rosin for emulsification of the pine oil.

Rug, Upholstery Cleaners

CLEANERS suitable for fabrics, rugs and even for painted and metal surfaces can be made from potash soaps of oleic acid containing a solvent and a little alcohol as a solubilizing agent. A typical formula (10) for such a soap includes:

	Pounds
Oleic acid	2016
Caustic potash (40° Be')	260
Flaked potash	134
Xylene	800
Isopropyl alcohol	250
Stoddard solvent	2600

The potash soaps of coconut oil and olive fatty acids as well as oleic acid triethanolamine soaps find their way into formulations (11) for cleaning upholstery:

	Pounds
Oleic acid	28
Ethylene dichloride	13
Isopropanol 99%	14
Butyl Cellosolve	5
Triethanolamine	16
Water	125

But the fat-based syndets such as the sodium lauryl sulfates are replacing many of the soap-based products for on-location rug and upholstery cleaning because their copious and heavy foam holds water tending to prevent wet through, which causes matting and mildew. The sodium salt (12) is used because it can be picked up readily by the vacuum cleaner after

drying. Typical formulas (13) of this type are:

	Parts
Sodium lauryl sulfate (80%)	1
Sodium sesquicarbonate	3

or:

	Per Cent
Fatty alcohol sulfate	2
Trisodium phosphate	1.5
Alcohol	10.5
Water	86

A few other uses for liquid specialty soaps that may be derived from fatty acids include coatings for paint spray booths to aid in their cleaning, and indicator soaps for showing presence of a certain chemical (TNT) on the hands.

Powdered Hand Soaps

POWDERED hand soaps are used throughout industry today to keep the workers' hands clean. These are physical mixtures of soaps with vegetable scrubbers such as ground corn meal, cob, rice hulls, or wood flour. The real soap content ranges between 15 and 25 per cent and the scrubber content 50 to 60 per cent. The use of ground borax (the hydrated tetraborate) as a scrubber offers white products that are completely soluble. Soap-compatible syndets, such as the anionics and the nonionics are useful additives for flash foam and promote better detergency against some types of soils. The products are free flowing and are used in dispensers. The bulk of the soaps used in these cleaners are of vegetable origin partially because their higher color is not an important factor, especially among the products based on vegetable scrubbers. Furthermore, the lower titer soaps from vegetable sources such as soya and cottonseed when supplemented with coconut oil soaps offer products that will lather well even in the cold or cooler water often supplied in industry's wash fountains. The harder animal-based soaps tend to lather too slowly to suit the average worker and their thicker, pasty lather, especially in the more alkaline borax-types, is not easily rinsed off and may lead to skin irritation. Of course, all of these soaps may be

made from the corresponding fatty acids with the advantages mentioned at the beginning of this article.

Waterless Hand Cleaners

THESE cleaners generally are emulsions of mild solvents of petroleum derivation with water. The fatty acid soaps of the ethanolamines are often used as economical and efficient emulsifiers and to impart a measure of detergency as well. The amine soaps seem not to degrade and discolor as fast in these products, possibly because they are used only in minor quantities and are internally bound at the oil-water interface. They also offer the product a somewhat lower pH than would ammonia or alkali metal soaps. Fatty acids also find their way into these cleaners in the form of syndet additives, among which are the fatty acid condensates of the alkanolamines, and the phenoxy polyethylene oxide adducts of tall oil and other fatty acids. These are non-ionic in character and compatible with the emulsifier of the soap type. A suggested formula (14) is:

	Per Cent
Deodorized kerosene	35.8
Red oil fatty acid	5.0
Red oil fatty acid ester of polyoxyethylene glycol	5.0
Hydrogenated tallow amide	3.0
Liquid caustic soda (50%)	1.3
Water	49.9

Waterless hand cleaners may also be made entirely of fatty acid derivatives in the form of syndets and thickening agents. A typical formula (15) is:

	Per Cent
Sorbitan sesqui-oleate	1.25
Polyoxyethylene esters of mixed fatty and resin acids	6.25
Sodium carboxymethyl cellulose	2.50
Water	90.00
Preservative and perfume	q.s.

Paste and Cream Soaps

TWO paste soaps may be considered as in the specialty field. They are mechanics' abrasive hand soaps and new cream soaps for industry. Mechanic's paste soap, made from soda soap chips of tallow and coconut (10 to 30 per cent) mixed with water, contains some five per cent silicate of soda and

(Turn to Page 105)

Second International Congress of Surface Activity*

By F. V. Wells

Editor, Soap, Perfumery and Cosmetics

JUDGED from the standpoint of a general contribution to the understanding of this many-faceted subject the Second International Congress deserves nothing but praise. It was exceptionally well attended, reached the highest levels of academic achievement and was truly international to an extent that has never before been achieved.

There have, of course, been the usual adverse criticisms. An old friend of mine, who is not only a Ph.D., but also chief chemist of a firm specializing in the production of surface active agents, wrote to me: "In my view there were too many papers, most of which were too academic and scientific and the discussions were on too high a level. Social arrangements were good and gave one a chance to meet people." Others who attended the Congress were of the opinion that the time allocated to the presentation of each paper was too limited and, in one section at least, the chairman further wasted available time by interpolating his own comments. Before the congress opened, I myself wrote a letter to the organizers, politely inquiring on behalf of British and foreign technical journals whether any arrangements were being made to have such journals on display at the meeting. In reply, I received a terse note stating that "it is not the intention of the Congress to arrange for the distribution or display of publications during the Congress." Well, no doubt they had their own excellent reasons for adopting this attitude, but I am quite sure that it is not one

calculated to please members of the scientific and technical press. After all, one is accustomed by now to attending international conferences and congresses organized on the broadest possible basis with a view to promoting the welfare, by whatever means may be available (including, as a matter of course press publicity) of the particular branch of science or industry so served.

However, having disposed of these rather minor points, I can only speak in the highest terms of the published outcome of this important gathering of scientists. All who attended the Congress will note with regret the death, since it took place, of the chairman of the organizing committee, Dr. L. H. Lampitt, former President of the Society of Chemical Industry, recipient of numerous honors and awards and Fifth Honorary Member of the Chemists' Club, New York.

According to my notes, 39 Americans attended the Congress and eight Russians. The latter group included no less a personage than Professor A. N. Frumkin, who was joint-chairman of the 4th session relating to electrical phenomena.

Some idea of the representative character of the Congress may be gained by referring briefly to the names of some of the other sectional chairmen. Thus we had Professor A. E. Alexander, formerly of Eng-

land but now of Australia; Dr. D. G. Dervichian of France, Professor G. M. Schwab of Germany, Professor J. H. de Boer of Holland, Dr. H. B. Klevens of the U.S.A., Dr. A. S. C. Lawrence of the U. K., Dr. S. Brunauer and Dr. H. Sobotka of the U.S.A., Dr. J. de Launoit of Belgium, Dr. E. I. Valko of the U.S.A., Professor P. A. Reh binder of the U.S.S.R., Professor A. Nasini of Italy, Professors A. M. Gaudin and Melvin A. Cook of the U.S.A., and Professor I. N. Plaksin (U.S.S.R.), with Sir Eric Rideal and Dr. Jack Schulman (U.S.) as roaming chairman with a wandering brief.

I have merely picked these names at random, as even a complete list of the sectional chairmen would be too long for publication. The published list of those who actually attended the Congress covers 12 pages of small type and would be a valuable directory of leading workers throughout the world, in the field of surface activity if only it included their addresses. It has been said that there were more than 800 delegates from over 20 countries.

The president of the Congress was Sir Eric Rideal, who in 1919 to 1920 was Visiting Professor of Physical Chemistry to the University of Illinois. The honorary foreign vice-presidents were Professor J. J. Hermans of the department of physical chemistry at the University of Leyden; Professor Joel H. Hildebrand, president of the American Chemical Society in 1955; Academician A. N. Nesmeyanov, president of the U.S.S.R. Academy

*This official title seems to me, by the way, to be something of a misnomer. Surely, it should have been called "on Surface Activity". Even if one interprets the word "congress" in its widest sense, the phrase, to me at least, has an awkward and illogical sound.—F. V. W.

of Sciences; Professor Naoyasu Sata, of Osaka Imperial University; Professor Arthur Stoll, doctor honoris causa of 13 universities and president of IUPAC, under whose patronage the congress was organized; and Professor Jacques Trefouel, director of the Pasteur Institute in Paris and a member of the Association of American Physicians.

The meetings were held at the Senate House, London University, from Monday to Friday, April 8-12. Delegates were kept extremely busy from 9:30 a.m. till 5 or 6 p.m., and in addition to that were invited to visit factories and meet one another socially both formally and informally.

Readers seriously interested in this Congress must be referred to the three volumes of preprints issued by Butterworths Scientific Publications, 4/5 Bell Yard, London, W.C. 2., under the title "Preprinted from the Proceedings of the Second International Congress of Surface Activity."

It seems to me beyond the capability of anyone to prepare a satisfactory collection of summaries from these three volumes and other available sources, but the following notes are offered for the general information and guidance of readers of *Soap and Chemical Specialties*. I have attempted to group them together in a way that may facilitate convenience of reference.

Detergency

"The Rate of Wetting of Textiles by Detergent Systems."

By K. Durham and M. Camp (research department, Unilever, Limited, Port Sunlight, England).

The authors describe an investigation of the wetting of cotton by detergent solutions. An apparatus has been designed which gives an accurate measure of the rate of wetting of cotton by detergent solutions. Three electrodes, one of which is positioned in the center of a circular piece of cotton, bear against the cotton surface; as the wetting solution advances to the

third electrode, a second relay is actuated to stop the timer. The reading of the timing device is thus an accurate measure of the time taken for the detergent solution to wet a given length of cloth.

An attempt has been made to analyze the problem of wetting of a fibrous mass, and equations for the surface tension as a function of time have been introduced into the Rideal-Washburn equation prior to integration. The resultant equations are compared with experimental results. It is evident from this work that diffusion of surface-active material to the air/water interface is a rate-governing process in the wetting of capillary systems such as cotton fabric by detergent solutions.

Results for cotton soiled with fat and particulate matter are too complex for any detailed analysis but it is found that soils containing fat and particulate matter are very difficult to wet.

"Some Observations on the Relationship between Dirt Removal and Fibre and Fabric Substrate."

By R. E. Wagg (British Launderers' Research Association, The Laboratories, Hill View Gardens, Hendon, London, N.W.4).

Washing experiments have been carried out using natural and man-made fibres and fabrics made from them and the amount of dirt removed found to depend on the nature of the fibre, the construction of the fabric and the nature of the detergent used. Impurities in, and different finishes on the fibre and fabrics also influenced the results—as one would expect.

"The Evaluation of Detergents with Special Reference to Laundering."

By R. E. Wagg.

The techniques found to be of most use for evaluating detergents both in the laboratory and on the plant scale are reviewed. Subjects discussed include the limitations of chemical analysis and meas-

urement of physical properties, the design of a suitable laboratory washing test with particular reference to the choice of material to be washed, the nature of the soiling matter used, the method of washing and the ways dirt removal may be assessed. The importance of insuring that the selected technique gives results correlating with those obtained in practical laundering is stressed. Methods of laundry experimentation are described and reference made to the application of experimental design and statistical methods to both laboratory and laundry testing.

"Non-Ionic Detergents in Wool Washing and the Recovery of Lanolin."

By G. Lievens (Tensia S.A., Liege) and R. Bovy (Etalbo S.A., Brussels).

In this paper, presented in French, the authors show that the use of nonionics allows continuous washing and the obtaining of an absolutely uniform quality of washed wool, in such conditions of pH and temperature as to insure that the keratin is constitutionally unimpaired. The nonionics also enable less water to be used for the process, thus leading to an important economy in calorie consumption and a corresponding reduction in the cost of washing.

It has been found possible to evolve a new process for lanolin recovery based on certain properties conferred by the nonionics and giving a particularly pure wool fat at very high yields.

"Solubility of Binary and Ternary Systems of Synthetic Detergents."

By C. Kortland and P. L. Kooijman (Koninklijke/Shell Laboratories, Amsterdam, Netherlands).

"Particle Size and Detergency."

By T. H. Shuttleworth and T. G. Jones (research department, Unilever Limited, Port Sunlight).

Described is an attempt to

relate the behavior of particulate soil in the detergency process to its particle size characteristics determined in the actual system. Preliminary experimental results support theoretical conclusions that the tendency of a particle towards deposition on a fibre increases with decreasing particle size. Electron microscopic investigation of cloth soiled with fine particles (Philblack A and Trimount carbons) has provided little evidence that micro-occlusion in the rugosities of the fibre surface is the dominant mechanism of soil retention; sorptive forces, especially for particles less than 0.1 μ in diameter, seem to be more important.

"Penetration Wetting of Woolen Fabrics by Sodium Laurate Solutions."

By K. J. Niewenhuis (Wasserij-instituut T.N.O., Postbus 70, Delft, Netherlands).

"The Influence of Interfacial Electrical Conditions on the Deposition of Soil Particles on to Cotton from Detergent Systems."

By K. Durham (research department, Unilever Limited, Port Sunlight).

"Cationic Surface-Active Agents with Polypeptidic Character."

By M. M. Jean Bolle, Pierre Ragon, Mlle. Therese Jullig, Mme. Denise Baido (Annexe du Laboratoire Central des Services Chimiques de l'Etat, Vert-le-Petit (S. & O.) France).

"Aqueous Dispersions of Carbon Black."

By H. G. Wagner (B.A.S.F., Ludwigshafen-am-Rhein, Germany).

"Some Interfacial Effects of Calcium Ions in Detergency."

By A. S. Porter (Albright & Wilson Ltd., Oldbury, Birmingham).

Results are given showing

some of the ways in which calcium adsorption at the dirt/solution and fabric/solution interfaces can affect the washing of fabrics with anionic synthetic detergents. Effects have been studied at the interfaces, between detergent solutions and oil and clay, representing two of the main types of natural soiling matter. The following techniques have been used where practicable: measurement of calcium adsorption electrophoresis, flocculation of dispersions, the deposition of soiling matter on fabric and the washing of soiled fabric. Adsorption of calcium by cotton has been measured under a wide range of conditions. It is concluded that calcium ions adsorbed at the interface between dirt particles and a detergent solution hinder detergency under domestic laundering conditions. Adsorption of calcium at the fabric solution interface results in the transfer of calcium from rinse water to the next wash liquor, which can be rendered sufficiently hard to interfere with detergency, even when soft water is used for all treatment.

Emulsions and Dispersions

"Spontaneous Emulsification."

By J. T. Davies (department of chemical engineering, Cambridge) and D. A. Haydon (department of physical chemistry, Imperial College of Science and Technology, London).

If oil and water (with certain additions) are brought into contact, spontaneous emulsification will sometimes occur on one or both sides of the interface. The cause of this is not always clear, though the requisite energy comes from the redistribution of the components in the system. Three theories have been advanced to account for this: (I) The interfacial instability due to a non-uniform diffusion across the interface, causes "kicking" violent enough to break off droplets of the adjacent bulk phases; (II) Diffusion of (say) oil and additive together into the water: the additive is diluted by the water and the oil

is left stranded, forming emulsion droplets; (III) The interfacial tension is temporarily negative, so that the interface will increase in area.

Several known examples of spontaneous emulsification have been more fully investigated and their mechanisms established.

"The Dispersion of Self-Emulsifiable Oils in Aqueous Solutions."

By E. D. Gilbert (Newton Chambers & Co. Ltd., Chemical Division Development Laboratory, England).

The stability of self-emulsifiable oils and emulsions can be explained best on a partition theory. The interfacial film is in equilibrium with both phases; its physical form and hence the curvature at the interface is determined by the distribution of the stabilizing amphophilic compound between the two phases. Inversion, spontaneous emulsification and the breakdown of emulsion may be explained by the displacement of equilibrium due to changes in the composition of either phase or to changes in the phase volume ratio.

In view of the technical importance of self-emulsifiable or "soluble" oils, it is surprising that there are so few references in the literature on this subject. It is even more surprising that although certain industrial "know-hows" of formulation (e.g. the use of castor oil soaps to solubilize phenols; the addition of paraffinic hydrocarbons to improve the dispersibility of aromatic "soluble" oils) have been known and used industrially for many years, the underlying principles have been imperfectly understood.

The most extensive work on solubilization has been carried out by Winsor and is discussed fully in his monograph. Winsor's work, however, contains little information on the dispersibility of "soluble" oils, nearly all his work having been carried out on systems containing approximately equal parts of oil and water. Most of the solu-

ble oils of industry contain 75-80 per cent oil.

Solubilized oils and aqueous emulsions are multi-component systems which cannot be studied quantitatively on classical physicochemical lines. Progress has been made mainly by (1) the study of simpler systems, as in Schulman and co-workers' papers on studies at the air/water interface, and proceeding by analogy to emulsion systems, and (2) phenomenological studies on more complex systems, as in Winsor's work, and interpretation of the results.

For clarity in presentation Winsor's classification of the different systems is adopted by the present author, although interpretation of their structure is not necessarily accepted.

"The Role of Surface Active Agents in Processes for Dispersing Solids in Liquid Media." By J. L. Moilliet (Imperial Chemical Industries Ltd., Dyestuffs Division, Blackley, Manchester.)

The two basic effects which are achieved by the adsorption of surface active agents at solid/liquid interfaces, viz. lowering of interfacial tensions and formation of interfacial barrier layers, are briefly discussed. The function of surface active agents in typical dispersion processes, including mechanical disintegration and controlled precipitation methods, are examined in terms of these effects and of the phenomena which are due to them. The stabilization of dispersions, and the direct transfer of disperse particles from aqueous to non-aqueous media, are similarly discussed.

"Coagulation of Oil-in-Water Emulsions." By M. Van Den Tempel (Unilever Research Laboratory, Vlaardingingen.)

Coagulation of an emulsion occurs in two consecutive steps: flocculation and coalescence. Flocculation differs from the similar process in hydrophobic sols of solid particles, in that the oil globules in an aggregate are still separated by a high potential barrier, having a

width of the order of 100 Å or more. Coalescence may occur by rupture of the water film separating the oil globules, if the globules are in such contact for a sufficiently long time.

A method is described which allows measurement of the rate of coalescence in concentrated emulsions. This rate is identical with the probability of rupture of the water film between flocculated oil globules. Results of such measurements show that coalescence occurs as a first-order reaction, indicating that the occurrence of coalescence of two contacting oil globules does not affect the stability of contact points in the vicinity. The effect of several factors on the rate of coalescence is illustrated by means of experimental results.

"The Preparation and Properties of Colloidal Solutions of the Alkaline Earth Carbonates." By P. A. Winsor (Shell Research Ltd., Thornton Research Centre, Chester, England.)

Neuberg's method for the preparation of colloidal dispersions of the alkaline earth carbonates in methanol is discussed and extended and a method is described whereby the hydrophilic colloidal carbonate particles of the methanol sols are rendered lipophilic and oil dispersible by treatment with suitable surface active materials. The application of such alkaline oil dispersions in the lubrication of internal combustion engines is noted.

Details of the preparation of colloidal magnesium carbonate, colloidal calcium carbonate, and colloidal barium carbonate are given and of the conversion of such methanol sols to sols in mineral oil.

Pesticides

"Physicochemical Studies of Pesticides. I: Aggregation Phenomena in DDT Suspensions." By G. T. Barnes and A. E. Alexander (School of Applied Chemistry, N.S.W. University of Technology, Sydney, Australia.)

It is shown that the rate of aggregation of a DDT suspension is considerably increased at a hydro-

phobic fibre surface, and an explanation based on the adhesion of hydrophobic DDT particles to the surface is proposed. It is difficult, with the rather complex system used here, to give a more detailed explanation of the phenomenon, but work is now in progress on some simpler systems which, it is hoped, will permit more fundamental investigations.

The phenomenon may also be of some practical interest. Thus, to obtain the more readily dispersible floc, rather than a dense cake of DDT a dip should be used immediately after preparation. This is, in fact, the recommended practice.

"Physicochemical Studies of Pesticides. II: Effects of Salts and Clays on the Stability of DDT Suspensions." By D. K. O'Neill (N.S.W. Department of Agriculture) and A. E. Alexander (N.S.W. University of Technology.)

It is found that with this particular formulation the presence of salts up to certain concentrations increases the stability of the DDT dispersion and this is ascribed to the increased activity of the stabilizing soap used. However, salt concentrations above certain limits "salt" out the soap, causing more rapid crystal growth and deposition of DDT in a form too large to be resuspended for practical dipping. The presence of most clays markedly increases the stability, possibly by adsorbing the surface active agent, thereby eliminating the micelles that are responsible for crystal growth and also by assuming a surface active role in adsorption on the surface of the DDT crystals.

A practical outcome of the present investigation is that increased stability of the DDT dispersion can be obtained by the addition of suitable clays immediately after charging the dipping vat. The amount to be added would depend upon the clay, but 0.2 to 0.5 per cent of bentonite clay or its equivalent would suffice.

"The Influence of Wetting Agents on the Retention of Fungicide

Sprays." By E. Somers (Dept. of Agriculture and Horticulture, Long Aston Research Station, University of Bristol.)

Wetting agents applied by high-volume sprays are discussed in relation to the amount of "run-off" observed.

Biological

"Energy Relationships in Physical Toxicity." By D. J. Crisp and D. H. A. Marr (Marine Biology Station, University College of North Wales.)

"Identification of Surface Components on The Bacterial Cell Wall." By A. M. James (Dept. of Chemistry, Chelsea Polytechnic, London, S.W.3.)

A comparison of the variation of the ζ -potential of micro-organisms under various conditions with the behavior of model surfaces under the same conditions enables the nature of the components on the cell exterior to be classified. The three conditions of test which are most useful in this respect are (a) varying salt concentration, (b) varying hydrogen-ion concentration and (c) presence of surface active agents.

The change in the nature of the surface of *Aerobacter aerogenes* during growth in the presence of crystal violet has been studied by these methods. The experimental findings are consistent with the hypothesis that normal cells have a predominantly polysaccharide surface in contrast to that of cells grown in the presence of the dye which is lipid.

"The Action of Lytic Agents on the Surface Structures of the Bacterial Cell." By M. R. J. Salton (Dept. of Bacteriology, University of Manchester.)

The types of agents associated with lytic phenomena and lytic enzymes are discussed. The lytic activity of surface active agents and their action on bacterial cell walls and protoplasts are investigated.

"The Sorptive Nature of the Olfac-

tory Stimulus." By R. W. Moncrieff (83, St. Pancras, Chichester, Sussex.)

The paper recapitulates salient points from earlier publications dealing with an experimental investigation into the possibility that the primary stimulus of smell is sorptive in nature. The possibility of characterizing odors on the basis of their spatial and temporal adsorption properties is considered.

"Molecular Shape, Size and Adsorption in Olfaction." By J. T. Davies and F. H. Taylor (Dept. of Chemistry, King's College, University of London.)

According to the authors, olfactory thresholds depend on the adsorption energy of odorant molecules to the olfactory membranes and on the dislocation of the membrane these adsorbed molecules cause. Both factors are evaluated numerically for different odorants, and it is now possible (they state) to predict the olfactory thresholds of other substances. The theory advanced appears to explain why glycerol is odorless, and also why, for diverse odorants, there is a correlation between olfactory thresholds and hemolytic acceleration.

(The present addresses of these authors are: Dr. J. T. Davies, Chemical Engineering Laboratory, University of Cambridge, and Dr. F. H. Taylor, Dept. of Chemistry, Imperial College of Science and Technology, London.)

General

"Molecular Interaction in Mixed Monolayers." By F. C. Goodrich (California Research Corporation, Richmond, Calif.)

(1) Intermolecular complexing between ionic and non-ionic surface active agents in the surface of an aqueous solution occurs if the hydrophobic portions of the two compounds are sufficiently symmetrical to pack intimately together with the release of van der Waals energy. This condition is well satisfied by straight-chain paraffin compounds.

(2) If such complexing occurs, it is in a mole ratio of 1:1.

(3) The introduction of hindering groups along the paraffin chain seriously reduces the complexing tendency. (Evidence in the literature is plentiful for the existence of a specialized kind of interaction between certain types of surface active molecules in monolayers. The experiments of Schulman and co-workers on film penetration, those of McBain on surface viscosity, and the investigations of Ross, Miles and Shedlovsky on surface phase transitions all point to the existence of extensive intermolecular association in aqueous solution between certain mixtures of ionic surface active molecules with non-ionic polar additives. The composition of the complexes formed and the nature of the binding forces involved are still a matter of controversy. In the author's experiments he attempts to show that these particular aspects of the phenomenon can be illuminated by a rather simple thermodynamic technique.)

"Solubilization in Soap Micelles." By M. B. Smith and A. E. Alexander (Division of Food Preservation, C.S.I.R.O., Sydney; and School of Applied Chemistry, N.S.W. University of Technology, Sydney, N.S.W.)

The influence of solubilized organic liquids upon the size and shape of soap micelles has been investigated by measurement of sedimentation velocity in the ultracentrifuge, as well as by viscosity measurements. Cetyl pyridinium chloride was used at a concentration of 0.1 M in the presence of 0.5 M sodium chloride. The organic liquids were 1:2:4-trichlorobenzene, methyl cyclohexane and toluene.

Solutions containing the two aromatic compounds show large viscosity increases and maxima in the viscosity curves. These behavior and sedimentation data are consistent with the formation of long rod-shaped micelles. Similar solutions containing methyl cyclohexane show a small regular viscosity
(Turn to Page 103)

ACS Hears of New Surfactants Based on Sugar and Petroleum

SUGAR derived detergents were studied from two different angles at the 132nd annual meeting of the American Chemical Society held in New York, Sept. 8-13. More than 1,500 papers were presented before a record breaking audience of about 15,000.

Before the Division of Agricultural and Food Chemistry, H. B. Hass, Sugar Research Foundation, Inc., New York, spoke on "Future Utilization of Sugar Crops." Among a wide range of non-food applications of sucrose and its by-products Dr. Hass mentioned sucrose ester detergents and emulsifiers, cane wax, and sorbitol. Promising sucrose derived products still in the laboratory stage include a new chlorine-free herbicide, diamines, sucrose-phenol-formaldehyde resins and a number of others.

Another paper reported sugars and petroleum uniting with the help of hydrogen fluoride as a catalyst to form highly diverse compounds which show promise as detergents, petroleum additives, germicides, resins, and other commercial products. Some of these chemicals gel hydrocarbons in low concentrations; the water soluble compounds are surface active.

The new process was developed by Carl B. Linn of Universal Oil Products Co., Des Plaines, Ill., in cooperation with J. Heerema and G. N. Bollenback of Corn Products Refining Co., Argo, Ill. Any given pair of reactants can give several products depending upon ratios and conditions. Combinations tried include: toluene with cellulose, glucose, starch, and sucrose; ethylbenzene and glucose; ortho-xylene and glucose; dodecylbenzene with cellulose; phenol and starch; and 2,4-dimethyl-phenol with cellulose. Some of the resulting compounds are new; others have previously been available only by way of a difficult synthesis. They

are surface active and their water solubility depends upon the balance between hydrophobic and hydrophilic parts.

Laboratory samples of two products of the new process available from Corn Products Refining are: 1-deoxy-1,1-di-(ortho-xylyl)-D-glucitol, made from ortho-xylene and starch, is stable to dehydrate in acids; 1-deoxy-1,1-di-(para-hydroxyphenyl)-D-glucitol, made from phenol and starch, is stable in alkali but unstable to heat and acids.

Two new organophosphorus pesticides were described before the Division of Agricultural and Food Chemistry by John F. Henahan, E. F. Orwell, Jack R. Graham, and S. K. Reed of Niagara Chemical Division, Food Machinery and Chemical Corp., Middleport, N. Y. "Nialate" and "Phostex" protect fruit against mites and aphids, and have low mammalian toxicity. "Sevin", A Wide Spectrum Carbamate Insecticide" was the subject of a paper by Joseph A. Lembrech and John R. Kilsheimer, Union Carbide Chemicals Co., South Charleston, W. Va. Radio-tracer techniques in pesticide studies were discussed in a symposium comprising six papers.

Chemistry and physiological action of gibberellins were studied in a symposium which included a paper dealing with gibberellin-like substances from higher plants, such as beans and cucumbers. (Gibberellins are obtained from the fungus *Gibberella fujikuroi*).

"Determination of Long Chain Sulfonates by Direct Titration with Cetyltrimethylammonium Bromide," by E. M. Girdler, Koppers Co., is an extension of a previously reported method for sodium lauryl sulfate. It is based on formation of highly associated salts of long chain quaternary ammonium salts with the sulfonate.

A two day symposium on "Advances in Gas Chromatography" included among 24 papers an "Evaluation of a Commercial Alkyl Aryl Sulfonate Detergent as a Column Packing for Gas Chromatography," by D. H. Desty and C. L. A. Harbourn of British Petroleum Co. A solid anionic household detergent is used. It contains about 17 per cent of an alkyl aryl sulfonate which functions as the stationary liquid phase. Performance of this type of packing was examined from two aspects: column efficiency, and the nature of the separation produced.

"Quantitative and Qualitative Analysis of Fatty Acids in the Range C_1 to C_{20} " by William Insull, Jr., and A. T. James, Rockefeller Institute for Medical Research, New York, and National Institute for Medical Research, England, was also presented as part of the symposium.

The Division of Colloid Chemistry heard E. Hirschhorn of R. R. Street & Co., Chicago, on "Equilibrium and Kinetics of Water Exchange Between Rayon and Detergent Micelles in a Hydrocarbon Medium"; and Pasupati Mukerjee, University of Southern California, Los Angeles, on "Density and Electroviscous Effect of Micelles of Sodium Lauryl Sulfate." A symposium dealing with the properties of monolayers included the following papers: "Some Quantitative Aspects of the Thinning of Soap Films," by Karol J. Mysels and Kozo Shinoda, University of Southern California; "Transition Temperatures of Monomolecular Layers and Surface Viscosity Changes," by John Ross and "Surface Tension of Aqueous Solutions of Lauryl Alcohol in Sodium Lauryl Sulfate," by John Ross and Morton B. Epstein.

Donald R. Baer of E. I. du Pont de Nemours & Co. spoke on a series of alpha, alpha, omega-trihydroperfluoro alcohols prepared by the telomerization of tetrafluoro-ethylene in methanol in the presence of a free radical initiator.

(Turn to Page 119)

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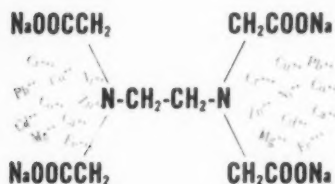
ethylene spout that insures every drop reaching its objective . . . and not the floor. Both drum sizes are easily stacked, and you can count on full quality retention through storage. And, oh yes . . . Cyanamid is the only supplier of EDTA sequestrants using them.

Interested?

Then send for the data sheet or a sample by sending us the coupon below. Orders for drums will, of course, be gratefully accepted, too! In any case, you can count on our laboratory people and field men to offer all the help they can in the application of sequestering techniques to your product or process problems.

What, Exactly, Is CYQUEST 40?

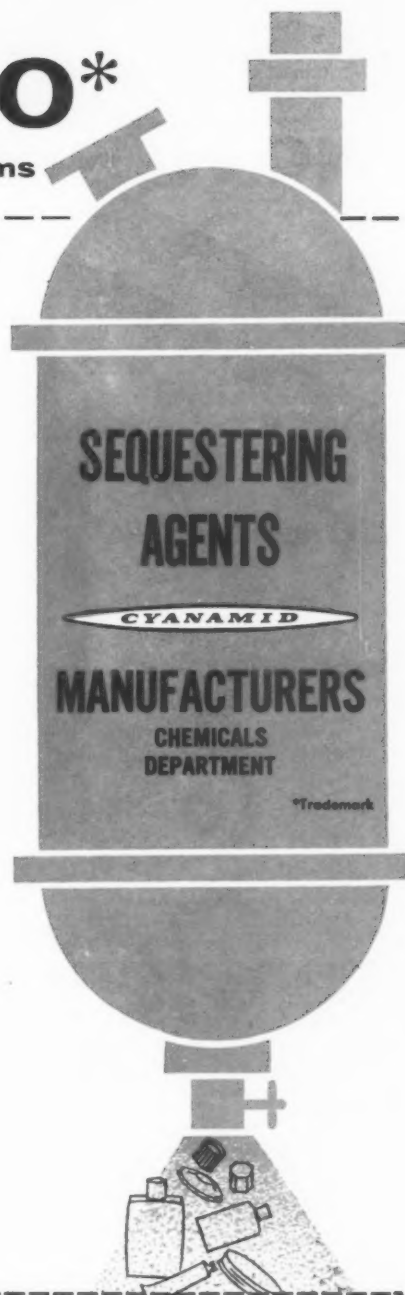
The answer is given quite completely in a data sheet (see coupon offer below) that details properties, solubilities, and the sequestering characteristics of CYQUEST 40. Here, we will just say that it is a 40% aqueous solution of the tetrasodium salt of ethylenediamine tetraacetic acid. This clear solution is completely stable under storage conditions and is not decomposed by acid



or alkali, even at elevated temperatures. In fact it takes strong oxidizing reagents such as permanganate or dichromate to even make a dent in its sturdy molecular structure.

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CYQUEST 40, as sold, is a basic solution—but we don't consider that to be very exciting news. What is important is that Cyanamid is basic in the production of tetrasodium ethylenediamine tetraacetate. As a result, no matter what your present or future requirement may be, you can rely on Cyanamid for continuous supply and prompt customer service.



American Cyanamid Company
Manufacturers Chemicals Department
30 Rockefeller Plaza, New York 20, N.Y.

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☐ Sample of CYQUEST

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Company _____

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In Canada: North American Cyanamid Limited
Toronto and Montreal

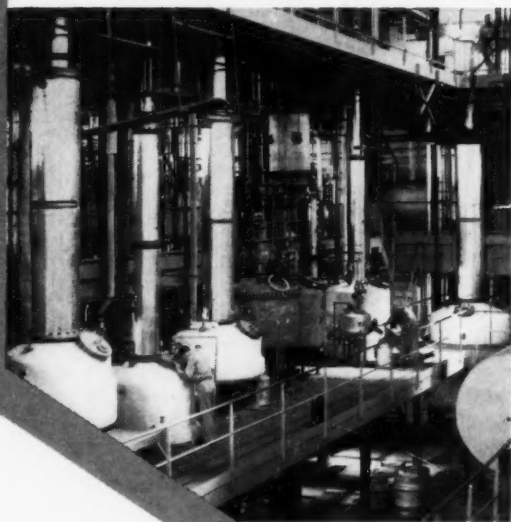
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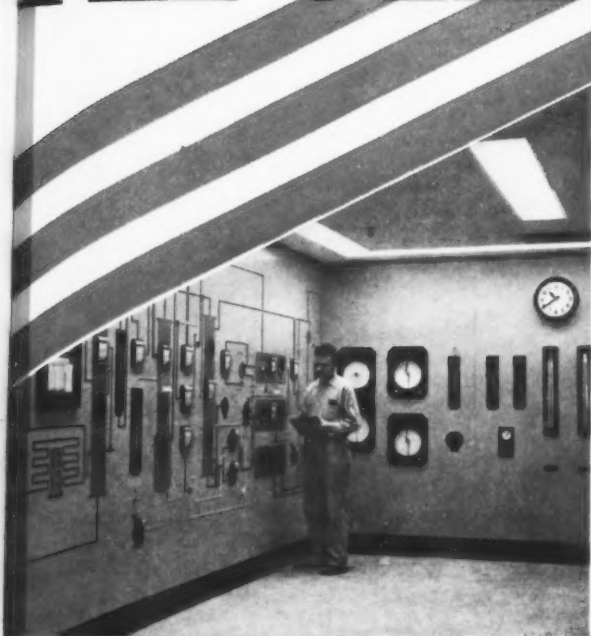
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Skin protectants
Stock sprays
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Wax strippers
Weed chemicals
 and other
Chemical Specialties

Aerosols' safety record is an excellent one. Such devices as aerosol pressure determination tester shown herewith, which measures pressure of aerosol containers without adding or detracting from this pressure, have helped keep aerosol accidents down. See article beginning on p. 77.



The image is a high-contrast, black and white photograph of a textured surface, likely a book cover or a piece of paper. The texture is complex, with various shades of gray and black, creating a sense of depth and movement. A horizontal band of text is visible across the middle of the image, with the words "take the hard water" in a bold, sans-serif font. The text is white, standing out against the dark background. The overall composition is abstract and artistic, with a focus on texture and light. The lighting is dramatic, with strong highlights and deep shadows, emphasizing the irregularities of the surface. The text is centered horizontally and appears to be part of a larger design or advertisement.

take the hard water

* Market estimate of per cent of sales lost in hard water areas due to the low level of the effectiveness of ordinary quaternary based germicides which cannot be sold in such markets.



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ask the man from Onyx





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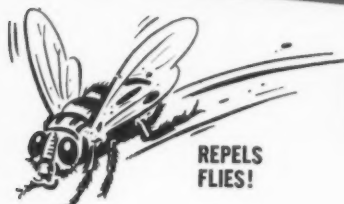
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Chemical Specialties Manufacturers Association, Inc.

50 East 41st Street

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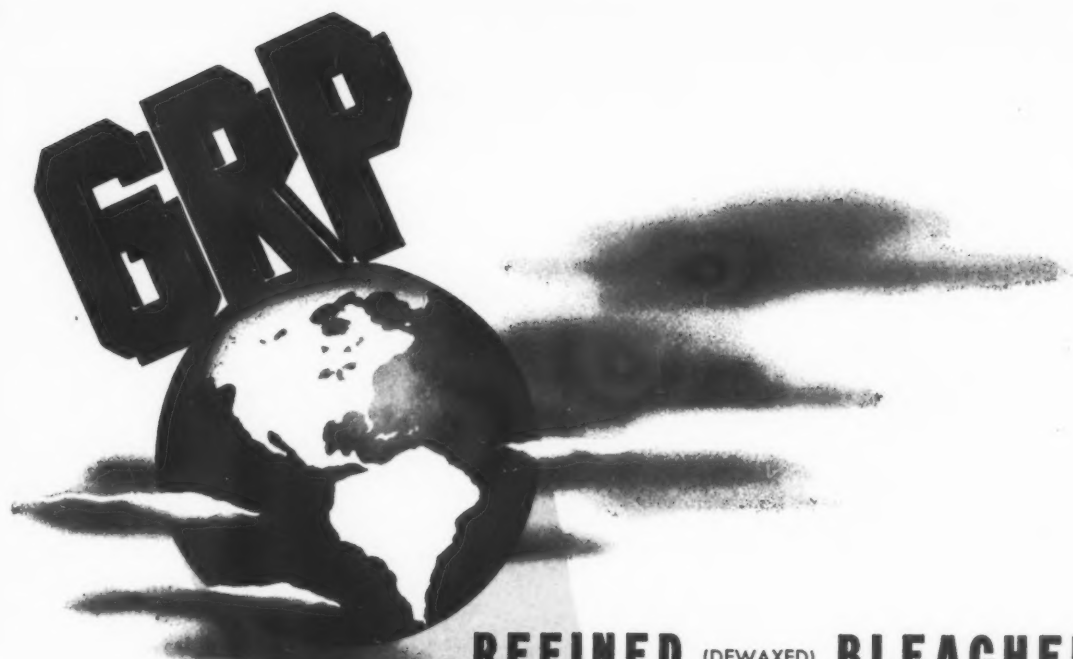
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TABLE OF CONTENTS

rats and mice
silverfish
springtails
cockroaches
crickets
earwigs
termites
dry rot fungi
wood-, book-boring
and related beetles

psocids
bedbugs and other bugs
clothes moths
household fumigation
hide and carpet beetles
ants
bees and wasps
stored product pests

spider or ptinid beetles
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fleas
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SOAP and CHEMICAL SPECIALTIES

Aerosols' Safety Record

The following article is based on excerpts of a paper presented by Dr. Young at the 61st annual meeting of the National Fire Protection Association in Los Angeles, May 23, 1957. It will appear in full with illustrations in the Proceedings of the Chemical Specialties Manufacturers Assn. for the December, 1957 meeting.

FROM the very first, the safety aspects of aerosols concerned us as individual companies and as . . . (a group) working together through the medium of its trade association. Chemical Specialties Manufacturers Association — CSMA for short — is the trade association which encompasses . . . (aerosols) among its activities. Some of us recognized that only if we grew safely would we grow at all. Public censure could be mightier than the best advertising campaign if we provided the public with a product which could cause trouble. Therefore, right at the beginning, much basic work was done to establish safe practices. Some of these safe practices wound up in the form of various governmental regulations. Others have been set up as standards promulgated by the CSMA which manufacturers follow voluntarily. All have been of mutual benefit to manufacturer and consumer.

The potential areas of hazard of an aerosol can be considered under three headings — pressure, toxicity and flammability. Just for an aerosol to exist, the contents

By E. G. Young, Ph.D.

Freon Products Division
E. I. du Pont de Nemours & Co.
Wilmington, Del.

must be under pressure. Now the pressure of any gas or liquid increases with the application of heat. Thus, in an aerosol properly filled with all the correct components, an excess application of heat may cause bursting of the containing vessel. Although the first aerosols exerted pressures of 70 psig at room temperature, . . . (loaders and suppliers have) steadily worked toward lower and lower pressures so now aerosols function at pressures as low as 15 psig. Of course, desirable performance has been maintained throughout. This has been possible by taking advantage of technical developments showing how to get "high pressure" performance out of low pressures. Even so, it is important not to overheat aerosols. This is the most common precautionary statement on aerosol labels. More about that later.

Toxicity enters into the picture principally because aerosols tend to provide widespread distribution of ingredients, so contact by persons with these ingredients may be greater in aerosol form than in nonaerosol form. The chief example where this is important is in insecticides. With few exceptions, chemicals which kill insects kill people. Fortunately, there is a difference in degree. Commercially approved insecticides have a wider margin between the toxic levels for insects and man than many other

chemicals. Federal regulation sets up standards which have adequate safeguards in them. Most manufacturers go (far) beyond the safeguards established by Federal law and provide additional margins of safety from toxicity by use of extremely safe insecticides such as pyrethrins and allethrin. Another factor involved in toxicity considerations is the pressurizing medium. Toxicity factors dictated the use of the . . . (fluorinated hydrocarbon propellant) compounds instead of methyl chloride and other possible pressurizing media because the . . . (former) were so low in toxicity. This practice is still followed. No actual difficulty has ever been experienced with this property of an aerosol primarily because the possibility of difficulty was recognized early and a proper selection was made at the first.

Flammability is the third area of potential hazard. This is the one of greatest interest to . . . (persons) in the fire prevention field. Although the . . . (fluorinated hydrocarbon propellant) used to pressurize the aerosol compositions is completely nonflammable as verified by results published by the Underwriters' Laboratories, almost all the other ingredients of the composition are flammable to some degree. The first aerosol products, the insecticides and room deodorants were so high in . . . (fluorinated hydrocarbon propellant) content that the entire product was completely nonflammable. As a matter of fact, the space insecticides for flies and mosquitoes could put

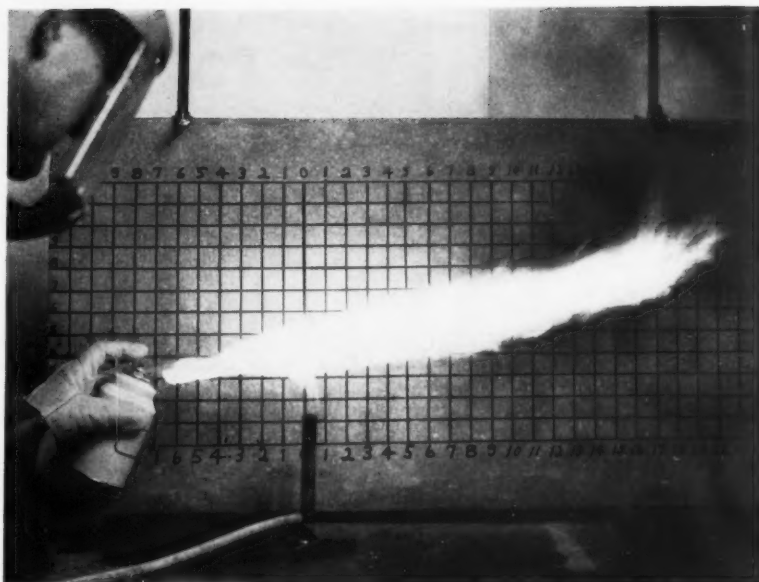
out fires. To be sure that safe performance is adhered to as new products are contrived, the CSMA worked with the Bureau of Explosives to devise appropriate test standards for arriving at the flammability of aerosols. These tests were developed because existing methods were not applicable to this new principle of dispensing. As a result, three tests became part of the ICC regulations and all aerosols must undergo this screening.

The first . . . (test is) the flame extension method. . . . (In it) the can is held six inches from the flame (a Bunsen burner) and the spray is directed into the flame. Against the ruled grid, measurements are made of the distance the flame is extended beyond the flame source. . . . This test relates to the practical case of kitchen spraying while gas stoves are on.

The second . . . (test is) the open drum method. A modified 55-gallon drum on its side is equipped with a movable front lid and several observation ports. The can is sprayed into the open end of the drum for 60 seconds. A plumber's candle is lit at the closed end. Air current must be nil. Observation is made for any combustion in the flame area. This test illustrates the practical occurrence of excess spraying in open areas where flame sources exist.

The third . . . (test is) the closed drum method. The same drum used in the previous test is used for this test but the front lid is closed. The aerosol is sprayed through ports at the rear . . . (while) the candle is burning. Any explosion will blow the lid off its safety catch. Some test aerosols give significant reports. These don't pass.

The CSMA, being quite conscious of the responsibilities of manufacturers to consumers, promulgated safe practices, not only for these factors of pressure, toxicity and flammability, some of which have become part of the laws and regulations of our land, but also for other more general



Flame extension test—Flammable aerosol formulation.

Photo courtesy Freon Products Division, E. I. du Pont de Nemours & Co.

matters which relate to safety in use. Early in the business, CSMA composed a precautionary label to appear on all aerosols. The last revision was in 1954 at which time the statement was sent to all members and other interested parties. This label was worded to cover all the areas of misuse and still not take up the entire space on the container. Each word was put through an obstacle course to be sure the entire expression was understood clearly by every reader.

Some companies have seen fit to follow CSMA recommendations almost to the letter. . . . (Other) manufacturers use all the thoughts and some of the recommended words in . . . (their) precautionary statement. Quite a little more is added in explanation of proper safe use. . . . (In) still another more common approach there is a rather free use of the recommended wording but the subject is well covered.

When difficulties have arisen with aerosols in the hands of consumers, it has happened because these labels were not read. The manufacturers have even tried to guard against misuse. Each and every can of aerosol is tested at 130°F. for leaks or distortion. No

can with ingredients causing toxic hazard can be shipped or sold. Flammability is so controlled that, if it exists at all, it is less of a hazard than comparable nonaerosol products and even then appropriate warning labels are applied.

You might suspect that with all these things which can go wrong, despite our safety consciousness, the performance record of aerosols is poor. Just the opposite is so. By reason of recognizing the chance for hazard and taking all possible safeguards, . . . (aerosol producers and marketers) through CSMA, have turned in a truly remarkable performance for safety.

CSMA has just completed a survey among . . . (aerosol) members to compile an up-to-date safety record. This had not been done since 1953. Up until that time, such a survey of accidents was conducted annually. In 1953, results were judged to be so insignificant that the activity ceased on an annual basis. In that year, 11 accidents occurred from use of the 135,000,000 aerosols which reached the retail market. By the end of 1953, aerosol . . . (loaders) had filled 340,000,000 units over the seven years of . . . (commercial aerosols). A cumulative total of 34

accidents had happened when consumers mishandled them. Sixteen of these cases, nearly one-half, occurred when aerosols were left on rear decks of parked and closed cars in the bright sunshine. I have never been surprised that an aerosol gets so hot it bursts when left in that spot in a car when conditions are right. I can say that because one day, a hole was burned in the interior lining of my car's roof by a reflection of the sun's rays through the rear window. Local temperatures of . . . (over one) hundred . . . degrees can develop. Half of the . . . (remaining) 18 accidents . . . happened when aerosols were left on stoves, radiators or in display windows. Twenty-five of the 34 accidents were clearly caused by overheating. The few . . . (others) are from a wide variety of circumstances. In no instance has fire occurred as a result of the accident. As a matter of fact, there is no known instances of any relation between fire and aerosols.

CSMA has brought up to date the aerosol accident experience by its most recent survey conducted in 1957. CSMA statistics show that by the end of 1955, 733,000,000 aerosols were packed and it is esti-

mated that over the ten-year period of . . . (aerosols) one billion aerosols have found their way into the hands of the consumer. Returns from this survey represent no less than 461,000,000 of these units. Several manufacturers did not report their totals as an exact number but rather as "greater than 50,000,000." A few did not report. In all, 65 accidents have accumulated over the ten years. Twenty of these resulted in personal injury; the other 45 in property damage. None was caused by flammability of the aerosol nor did they result in fire. Comparison with other types of retail merchandise shows that this is a remarkable record.

The 20 personal injury accidents have ranged from minor frostbite to a claimed permanent facial disfigurement. The 45 property damage cases . . . (ranged) . . . from the ridiculous to the serious. In one case, an avid housewife in her zeal to kill a fly held an insecticide so close to a painted wall that the paint lifted off the wall due to solvent action of the ingredients in the aerosol. Another time, Junior took a paint aerosol from Daddy's shelf and sprayed the grand piano a shocking pink. Cases of this type are usually settled for

the cost of a can of paint for repairing the damage or even less for after all there is flagrant misuse of the contents of the can. Perhaps the most serious with respect to cost is the several aerosols which have burst on the rear deck of a hot parked car. This raised quite a bit of havoc to the car with all the glass around. . . . (Such cases) are usually handled by settling for minor charges because the lack of compliance with the label instructions is so obvious. Claims of this sort total . . . almost insignificant amounts. One manufacturer reported he had filled over 50,000,000 aerosols and had a total claim settlement of only \$200 for the entire production.

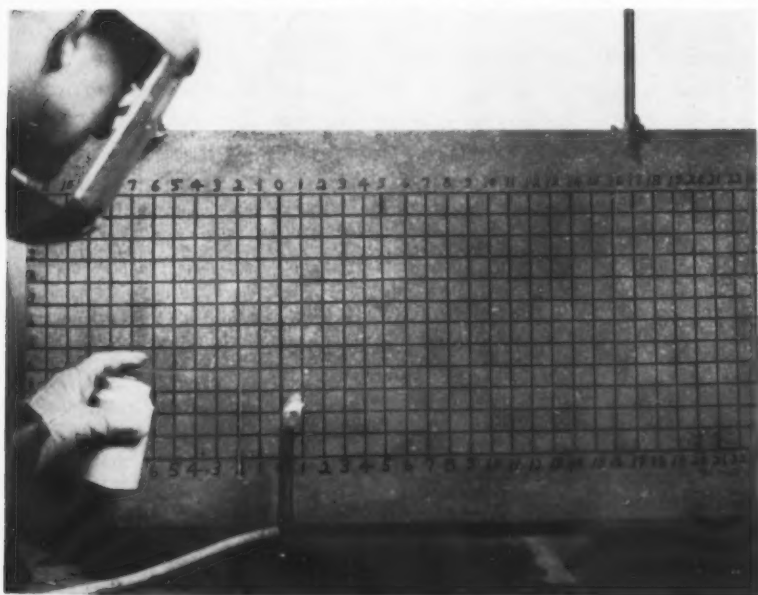
Several more serious claims have been made against aerosols, some of which have reached the headlines. In one instance, it was even alleged that death resulted from an aerosol. In this, as well as (with) all other such serious accusations, it was shown conclusively that aerosols either had nothing at all to do with the accident or else they were incidental to the accident and received summary conviction due to circumstantial evidence. The record has been set straight in every instance.

The aerosol record is good. We can be proud of it. Our insurers recognize this. We have only two . . . members who do not consider their relations with their insurers good to excellent. Only three . . . members have any rating of their insurance other than the lowest applicable. We do not know the details of these three. All of these insurance considerations apparently relate to public liability as well as fire and extended coverage. We feel that these insurance conditions reflect the safety of aerosols in all . . . (of their) phases and thus, confirm our own surveys.

Summing up, . . . (aerosols have) a fine safety record over . . . (their) 10 years of existence. This has been arrived at by conscientious effort on the part of the manufacturers of aerosols to guard against

Flame extension test—Nonflammable aerosol formulation.

Photo courtesy Freon Products Division, E. I. du Pont de Nemours & Co.



New Trends in Roach Control

By Joseph E. Lee*

Sales Manager, Chemical Division
McLaughlin Gormley King Co.
Minneapolis, Minn.

TO a greater or lesser extent many chemicals qualify for use in roach control. The selection of the chemicals and formulations depends upon where the finished insecticide is to be applied. For example, if a roach spray is to be made up for sale through sanitary supply jobbers, versatility is probably the principal requirement since the product may be resold by the jobber for use in a theatre, bakery, hospital, hotel or some other type of establishment. In producing a roach spray for sale through this type of channel of distribution the following questions must be answered:

1. Is the formulation effective?
2. Is the spray safe for use by companies dealing in food produce items not subject to insect contamination?
3. Since the operator will possibly be unskilled in insecticide applications and unaware of the dangers inherent in them, will this spray be damaging to his health or to others who may accidentally come in contact with the spray directly or indirectly?
4. Is the formulation one that controls both flying and crawling insects and does it perform these functions quickly?
5. Can this spray be used in both hand equipment and electric or steam vaporizing equipment?

*Paper presented during southwestern regional meeting, National Sanitary Supply Assn., Galveston, Tex., Sept. 20, 1957.

Anyone who has followed the evolution of insecticides for roach control knows that many new chemicals and new adaptations of old chemicals have been tested and commercially applied in recent years. Among the new chemicals for roach control are chlordane, dieldrin, lindane, malathion, "Diazinon", and "Dipterex." Where roach resistance and toxicity problems are not a factor chlordane and dieldrin in oil solutions and emulsions are both economical and effective. Since resistance to chlorinated hydrocarbons has become a major problem organic phosphates have proved useful in many areas. Among these chemicals malathion, "Diazinone", and "Dipterex" have proved particularly useful. Malathion and "Diazinon" have been used in both emulsifiable and oil solutions. "Dipterex," since it is soluble in water and extremely in-

soluble in most commonly used solvents, has been used in water solutions.

These products have not given the long residual control that was obtained from chlordane and dieldrin before resistance became a factor, but their residual effectiveness appears to last from two weeks to a month.

Combination Products

THERE have also been many formulations introduced that combine two chemicals, generally a chlorinated hydrocarbon and an organic phosphate. Formulations have combined such diverse chemicals as "Strobane" and malathion. Another such combination which I understand is patented is malathion and "Perthane". Yet another combination that has been used extensively is methoxychlor and lindane, a combination of chlorinated hydrocarbons. This latter combination has been recommended for some time by the American Institute of Baking.

The purpose of these combinations has been twofold: to obtain longer residual control and if possible to lower the human toxicity of the end product. I am personally familiar with establishments in which each of these combinations has been successful. However, the residual protection has not been as good as that provided by chlordane and dieldrin prior to resistant roaches.

To evaluate the various chemicals and combinations men-

Joseph E. Lee



tioned above, we should now review them in the light of the five basic questions that I raised earlier. Is the formulation effective? Is the spray safe for companies dealing in food processing? Since the operator may be unskilled, can he be reasonably safe using this spray? Does the spray control flying and crawling insects quickly. Is this spray adaptable to application in different types of equipment?

Unfortunately, all of the above chemicals and formulations fail to answer one or more of these questions.

Pyrethrins

IN RECENT years the use of an old insecticide, pyrethrins, has been revitalized by combining pyrethrins with synergists. The effect of the synergists has been to lessen the amount of pyrethrins necessary to perform a given task and thereby reduce the cost of the insecticidal treatment. The mode of action of synergists in combination with pyrethrum is not yet fully understood. It appears that the applied pyrethrins are completely absorbed in 24 hours, in which time extensive decomposition of the applied or injected pyrethrins takes place. Decomposition may be caused by enzymatic action.

This enzymatic action and absorption is reduced by the addition of synergists, thus enhancing the activity of the pyrethrins. Some workers believe that the action of the synergist is to prevent hydrolysis of the pyrethrins or pyrethroid materials. There are also some who feel that the action of the synergist is to precede the pyrethrins or pyrethroids into the insect and use up the enzymes that would otherwise metabolize the pyrethrins and thus, leave the pyrethrins to exert their effectiveness on the insect. This latter theory appears to be the most plausible.

Synergized pyrethrum formulations satisfactorily answered the above questions. They are safe and they are fast and they lend

Per Cent of Adult Male German Roaches Inhabiting Shelters
Age of Shelters in Weeks

	1	2	3	4	5	6	7	9	11	13	15
	%	%	%	%	%	%	%	%	%	%	%
Cartons treated with "933"	0	.5	0	0	.5	0	.5	7.25	6	15	32.75
Cartons treated with "933" and MGK Repellent 11	0	.25	.25	1.25	.75	0	0	.25	.75	0	.5
Untreated cartons.	84.5	85.25	98.25	97.25	91.1	90	94.75	88	79.75	84	56.25
Free roving in pen	15.5	14	1.5	9.75	7.75	10	4.75	4.5	13.5	1	11

themselves to use in varied types of equipment particularly when formulated in petroleum distillate. However, they have lacked residual effectiveness and this has been a drawback to the use of synergized pyrethrum.

Repellents

FORTUNATELY, in the past year repellents which are even less toxic than pyrethrins have been introduced on a commercial basis. These repellents are compatible with pyrethrins and since the repellents are residual in nature, a spray can now be produced that is non-toxic to warmblooded animals, is quick acting on flying and crawling insects, and has residual effectiveness. We offer a butadiene furfural copolymer called "MGK Repellent 11". The chemical development was done by Phillips Petroleum Company. Our company has performed the biological test work. The development work, both chemical and biological, was begun in 1951. The material was introduced just last year after exhaustive research. A considerable amount of laboratory work was performed. These tests were performed in an open-top stainless box 18 x 24 x 12 inches, containing

500 German male roaches. An 80 watt fluorescent light was suspended 15 inches above the pen and this light was on continuously from 6:00 a.m. to 8:00 p.m. Otherwise the pen was in darkness. Each day the roaches reorientated themselves. The roach shelters used in the test were 1/2 pint "Seal-right" ice cream cartons with 1/2 inch holes near the base. Filter papers were treated with measured doses of a synergized pyrethrum—"Repellent 11" formulation. This formulation contained one per cent "Repellent 11", .075 per cent pyrethrins, .150 per cent "Piperonyl Butoxide", and .25 per cent "MGK 264." The balance was petroleum distillate.

Other filter papers were treated with the above synergized pyrethrum formulation without the repellent. The filter papers were dried and then used to line the walls of the ice cream carton. In the first series of tests cartons with no treated filter papers were included in the pen as checks. In the second series to make the test more severe the untreated cartons were removed.

In field tests that followed using formulations containing five (Turn to Page 119)

Per Cent of Adult Male German Roaches Inhabiting Shelters
Age of Shelters in Weeks

	1st Day	1	2	3	4	5	7	9	11	13
	%	%	%	%	%	%	%	%	%	%
Cartons treated with "933"	7.5	13.5	19.25	31.5	27	51	53.5	89.5	72.75	66.25
Cartons treated with "933" and MGK Repellent 11	1.75	.25	4.5	5	3.25	1	3.75	2	15.5	20.75
Free roving in pen....	90.75	86.25	76.25	63.5	69.75	48	43.25	8.5	11.75	13

Construction and operation of

Test Floor for Floor Waxes

By Daniel Schoenholz and George D. Burns*

Foster D. Snell, Inc.
New York

THE use of test floors for the in-service testing of floor waxes has become an increasingly common and accepted method for the practical evaluation of such products. Such testing can and does provide information having a far greater degree of significance and credibility than is the case with laboratory and instrumental methods. Laboratory methods which have thus far been devised have always been questionable as regards their correlation with practical performance. They also deal with individual physical properties of the polish and necessarily fail to deal with the complex of properties as they simultaneously affect each other under the dynamic conditions of use. Instrumental and laboratory evaluation techniques have their use and deserve continued attention for development and improvement since they serve as valuable research tools for the purpose of studying the isolated effects of different materials and proportions under controlled and isolated conditions.

The utility of a practical, over-all performance measuring procedure is great when we consider that there is over-all economy in testing, both in time and cost of equipment, and that the results obtained have a greater final significance in the judgment of quality. The use of such techniques is

not new to industry and has achieved a noteworthy degree of development in connection with the evaluation of paints and similar coatings using test fence exposure procedures. That such procedures can achieve wide acceptance and prestige is demonstrated by the fact of their wide use and detailing by ASTM. It is our purpose, in the present connection, to spell out in as great detail as possible a proposed construction and procedure for floor service evaluation of floor waxes. The details described have been partly evolved by us and partly suggested by others outside our organization. No doubt still further improvements can be made and it is felt that it is entirely possible that the method can finally be resolved sufficiently as to deserve the attention of ASTM.

Scope of Test

THIS test procedure is intended to simulate actual service conditions and to allow for comparison of performance properties of one or more floor waxes against a standard or comparison floor wax. The properties of general appearance (including gloss), resistance to soiling, resistance to heel marking and scuffing, and buffability, are evaluated subjectively by a trained panel of three or more persons. The overall purpose is to evaluate durability of the floor wax film and slip resistance. The test procedure comparatively rates performance

properties of the wax before, during and after traffic.

Test Floor Construction

THE area selected for floor service testing should, of course, be located wherever moderate to heavy traffic occurs in two opposing directions. We consider 200 daily transits to be moderate traffic and 500 to be heavy traffic. Corridors or hallways are ideal for this purpose. Test areas measuring 36 inches x 36 inches and made up of nine-inch squares of alternate black and white asphalt tile ("Kentile") are mounted on sheet aluminum, measuring 36 x 38 inches. (1) The alternate black and white checker-board pattern is used, because it is easier to distinguish heel marking and soiling on the white tiles and to observe gloss on the black tiles. The tiles are mounted with strips of double faced adhesive tape. (2) The adhesive strips, about 1½ to two inches long, are first applied to the backs of the asphalt tiles at the corners. (Figure 1) This enables one to replace worn tiles frequently, or to remove them for other tests. Each piece of tile is then lined up with the shorter edge exactly one inch from the longer edge of the aluminum panel. After all of the asphalt tiles are set into place it is a good idea to place a flat board on top of it and

(1) Alcoa grade 6061 T-6 0.032" thick.

(2) Minnesota Mining & Manufacturing Co., "Scotch" double coated tape—grade No. 400.

*Paper presented during 43rd midyear meeting, Chemical Specialties Manufacturers Association, Chicago, May 21, 1957.

apply about 150 pounds pressure per square yard to fix the tiles firmly into place. The aluminum panels are then set into the test floor along the direction of traffic and held firmly in place by wood or masonite strips $\frac{1}{8}$ inch thick and fitted over the bare aluminum projections. The wood strips are screwed into the floor by means of thumb screws or bolts which can be removed when necessary. (See Figure 2) In practice, the screws are loosened after which the aluminum backed test panels can be flexed and slipped under the strips.

Coating the Test Floor

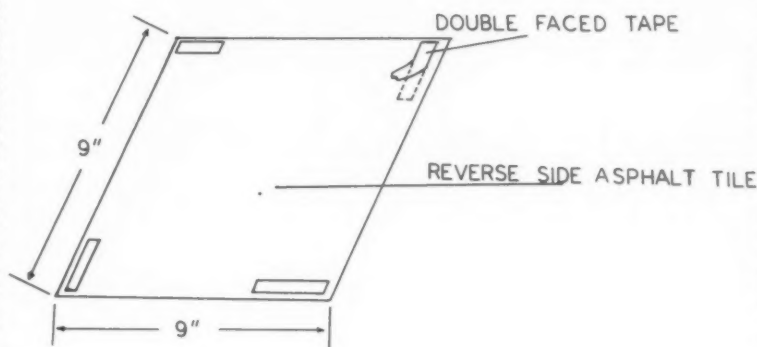
THE panels can be readily removed from the test floor for cleaning and coating. Reused asphalt test panels are prepared by cleaning with soap, water, ammonia and 00 steel wool, rinsed with clear water and dried with a clean cloth. Care should be taken to remove by successive cleanings, all of the mill finish on new tiles.

Two coats of the wax to be tested are applied to the test floor panel at the rate of approximately 1,500 square feet per gallon. This is equivalent to using 25 ml. of wax for the 36 inch square panel. The wax is measured out and poured across the center of the panel. It is spread over the panel with a folded mohair applicator (Figure 3) prepared by cutting a strip of mohair two inches wide and five inches long. The mohair is folded over a glass rod five inches long and $\frac{1}{4}$ inch in diameter. The free ends are held together by means of a spring clip five inches long.

The applicator is saturated with the wax prior to use. A separate applicator is used for each wax to be tested. The wax is spread over the panel in both directions, using approximately 10 or 12 strokes in each direction, and finished off with an additional 10 or 12 in the first direction. Panels are allowed to dry for one hour at room temperature and then are given a second coat of 25 milliliters (Turn to Page 87)

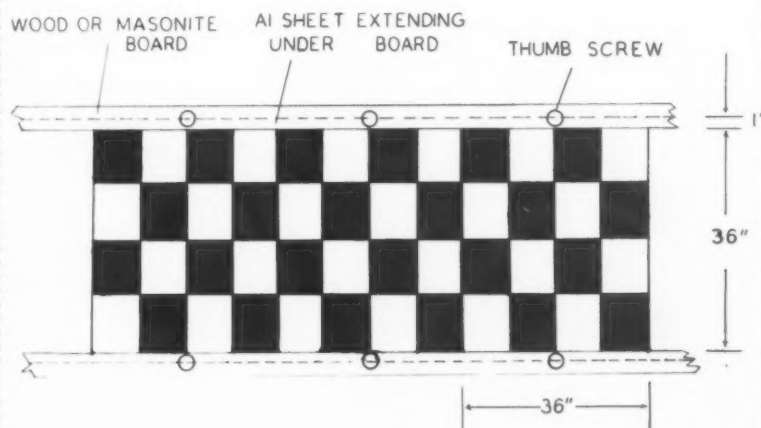
MOUNTING ASPHALT TILES ON TEST PANELS

FIGURE 1



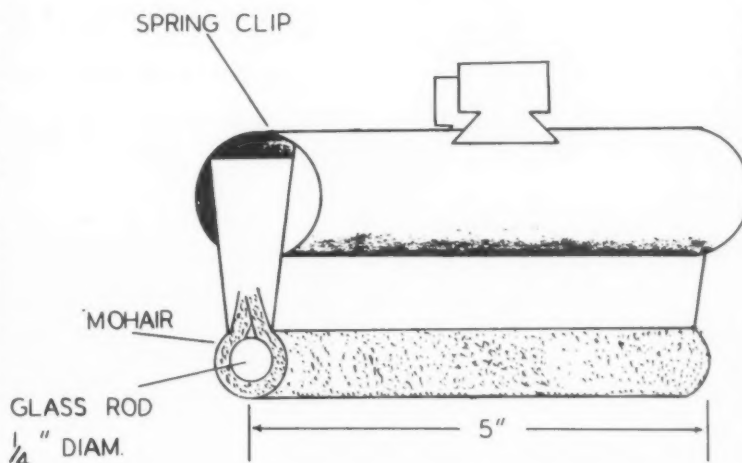
CONSTRUCTION OF TEST FLOOR

FIGURE 2



MOHAIR APPLICATOR

FIGURE 3



Here are the facts about BARECO'S NEW PETRONAUBA H WAX

made from a selected fraction
of Fischer-Tropsch Synthesized Wax

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Petronauba H, unlike other Bareco emulsifiable waxes, is made by oxidizing a selected fraction of Fischer-Tropsch Wax. The result is

a wax that is extremely pure, clean and uniform—and one that features great ease of emulsification, brilliant gloss, unique hardness, and high compatibility. Bareco Petronauba H can be formulated to produce excellent rebuffable "dry bright" polishes having brilliant luster, high slip resistance and leveling properties.

NOTE THESE PETRONAUBA H SPECIFICATIONS

Melting Point	195° F. Min.
Penetration @ 77° F.	1/3
Color	Yellow (4 NPA Max.)
Acid Number	15/25
Saponification Number	50/60
Viscosity @ 210° F.	175 max.



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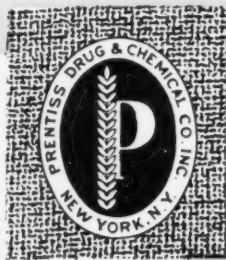


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of the wax to be tested, using the same technique. Following this, panels are allowed another one hour to dry at room temperature. They are then buffed with a power unit or left as is, depending upon whether the wax being tested is buffed in a typical maintenance procedure. Subsequent to drying and buffing, the panels are installed in the test area.

THE schedule of maintenance during traffic depends to a large extent upon the type and end use of the product being tested. All test floor panels are maintained by daily sweeping and are shifted one position along the length of the floor every other day during the test in order to equalize traffic. Tests are continued during a period of four, six or eight weeks depending upon the solids content of the wax and other factors. Waxes having 12 per cent solids are usually tested for six weeks. Waxes having 16 per cent solids content are usually tested for eight weeks.

Buffable type waxes are damp mopped and buffed weekly with a power buffer after drying. Buffing is done by passing the buffing machine fitted with bristle brushes over the area in uniform overlapping strokes once in the direction of traffic and once at right angles. The buffing of an area 36 inches x 36 inches should require only about two minutes.

The brushes are cleaned between buffing different test panels by allowing the buffer to run against a freshly cleaned dummy test panel for two to three minutes. The brushes are cleaned thoroughly periodically to remove wax embedded at the brush roots by soaking in trichloroethylene. Brushes so treated must be dried completely before reuse.

Where buffing is not a part of typical maintenance for the polish under test the surface is merely damp mopped. Special maintenance procedures may be

[illegible]

used for different types of products
if specified.

Strict adherence to the established maintenance schedule is important since it is a variable which affects performance appreciably.

OBSERVATIONS of the performance properties are made by at least three trained observers at weekly intervals immediately after the panels are damp mopped and buffed. Performance properties are rated independently on individual rating sheets (Figures 4 and 5) by each panel member. The following are the procedures for rating the individual performance properties.

1. *Gloss and overall appearance.* Gloss is evaluated best by judging the appearance of the black

asphalt tile panels, using approximately a 70° angle for viewing. Gloss is rated before traffic, during traffic and after buffing.

2. *Leveling* takes into account the spreading characteristics of a wax and whether or not a uniform streak free film results after two coats of wax are applied. Leveling is rated before traffic, after the test panels have been fitted into the test floor.

3. *Discoloration* is observed before traffic on the white tiles of the test panel.

4. *Slip resistance.* This property is measured by placing one foot on a piece of bond paper in front of the other foot at a distance of about nine inches and sliding the sole of the foot forward along the test area at an angle of about 30° to the vertical. Slip re-

[illegible]

NEW AMP FLOOR WAX EMULSIONS

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Water Resistance
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A new method for using 2-Amino-2-methyl-1-propanol in floor wax emulsions, developed by CSC's Research Department, has opened the way for a greatly improved product. The new method consists of slightly reducing the AMP content and incorporating aqua ammonia. The result: wax with excellent water resistance which develops very rapidly after the wax film is laid down.

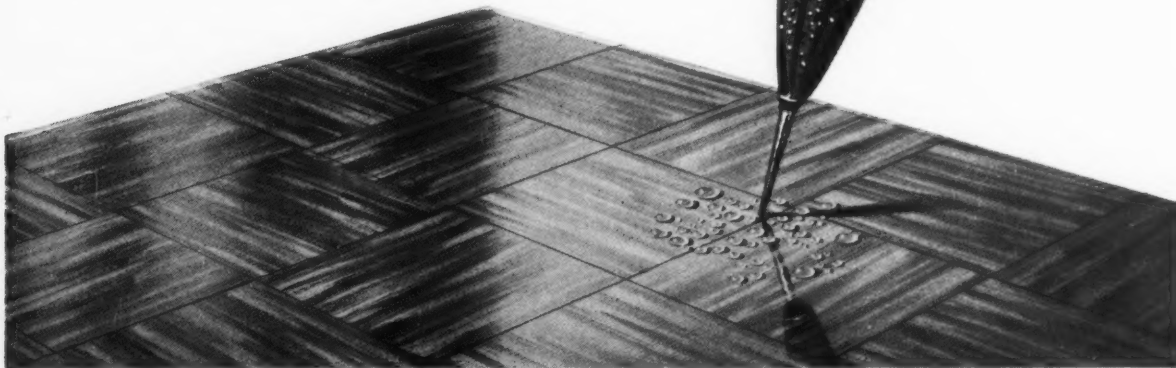
In addition to the rapid development of water resistance with the new AMP-ammonia formulations, considerable savings in costs may be expected since less AMP is required. Other performance char-

acteristics of the AMP-ammonia formulations such as shelf-life, freeze-thaw resistance, leveling, and gloss were fully equal to the best commercial formulations.

Proved By Performance Tests

In a series of tests, the new AMP-ammonia formulation attained "excellent water resistance" in less than *two-thirds the time* required, and at *one-third the cost for amine* when compared with a typical formulation using morpholine. A new technical datasheet describing these and other tests made with typical commercial formulations is available on request.

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sistance is rated before and during traffic.

5. *Soil resistance.* This property is to be distinguished from heel marks and scuff marks and is considered to be only the embedded soil which shows up best on white asphalt tile panels.

6. *Heel mark resistance and scuffing.* Black or brown streak-like traffic marks are considered evidence of heel marking and non-discoloring smear type traffic marks evidence of scuffing.

7. *Buffability* is the property of the polish film which permits it to be increased appreciably in gloss and restored to near original condition with buffing. Buffability is rated before and during traffic.

8. *Damp mopping resistance* refers to the ability of the film to withstand frequent damp mopping during traffic.

Evaluation of Results

RATINGS may be given in descriptive terms such as excellent, good, fair and poor. Alternatively comparison of the polishes under test against standard waxes can be done. By this means a series of polishes are rated in order of preference compared with a standard wax.

The test waxes are rated as equal to, better than or inferior to the standard wax. In order to increase the range of the ratings given, comparative adverbs can be applied to the latter terminology so that a given test floor polish will be rated as "much" better or "much" poorer than a given standard in some property.

Scoring

THE ratings of the observers are tallied after each period of observation. The sum tallies for the weekly observations on each test panel are tabulated and from this tabulation it is possible to rate the overall wearability of the polish under test.

A numerical scoring system is frequently convenient for statistical purposes in arriving at overall scores and for averaging the

opinions of different observers. For example a typical numerical system used by us is:

Excellent	4
Good	3
Fair	2
Poor	1

Factors for Further Study

CONSIDERATION should be given to a number of additional aspects of floor service, testing to improve agreement between laboratories and within laboratories. Among these are:

1. Adoption of a standard buffer as to weight, speed of rotation, types of brushes, etc.

2. Establishment of limitations as to floor temperatures and humidity. Obviously excessively high or low temperatures and humidities can result in severe divergences in results.

3. Use of electronic counters to determine the number of transits. The maintenance schedule and testing period might better be governed by the number of transits across the floor rather than by simple time periods. Thus for one laboratory 1,000 transits might be one week's traffic. For another 1,000

transits might only be two days' traffic.

4. Objective reference standards are needed so that ratings can have more definite and universal meaning. Four levels corresponding to excellent, good, fair and poor would be desirable for:

- Soil resistance
- Rubber heel mark resistance
- Slipperiness

For soil and heel marking we might well have photographic standards prepared by actually photographing some representative test panels. Foot slipperiness standards might be prepared from four selected waxes or possibly from other more permanent non wax materials — e.g. glass, plastics, etc.

Conclusion

WE have described a convenient and versatile type of test floor and our technique of using it. We have also briefly alluded to aspects requiring further study. It is our feeling that diligent pursuit of these factors will finally result in a specific and acceptable test floor procedure which will be the most useful general tool in evaluation of floor waxes.

Record P&G Earnings

Sales and earnings of the Procter & Gamble Co., Cincinnati, for the fiscal year ended June 30 were the highest in the firm's 120-year history, it was announced recently. For the 1956-57 fiscal year P&G sales totaled \$1,156,389,726, as compared with \$1,038,290,374 in the preceding year when P&G sales topped the billion dollar mark for the first time.

Income in the fiscal year ended with June increased 14.3 per cent to \$67,087,376 from \$59,316,471 in the previous year. Share earnings equaled \$3.44 per share on the average number of common stock shares outstanding, and compare with \$3.05 per share the year before.

In issuing the annual statement, chairman Richard R. Deupree and president Neil McElroy reported that the company's norm-

ally keen competition had increased during the year.

"Under its policy of generating the greater part of its growth from within, the company has moved forward in practically all the areas of its operation, both domestic and overseas," the executives said.

Looking to the future, they assure shareholders that a combination of well-planned research, competent and imaginative organization and financial soundness will enable P&G to take advantage of opportunities of the future.

The statement also reported completion of two new plants in the United States and another in Belgium, the beginning of construction of a new plant in Canada, completion of a new research center in England and expansion of the Florida cellulose pulp mill.

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Application of chromatography to

Analysis of Pyrethrins

By **N. C. Brown, D. T. Hollinshead,
R. F. Phipers and Margaret C. Wood**

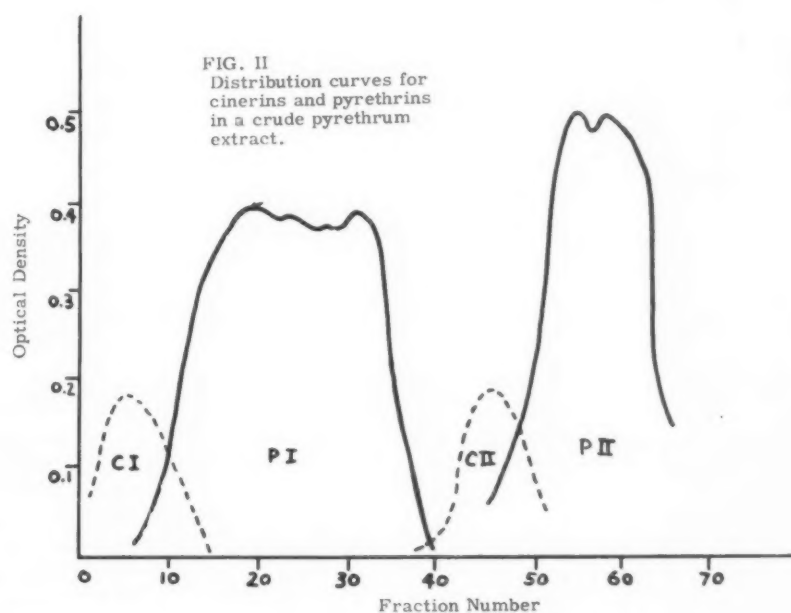
Cooper Technical Bureau
Berkhamsted, England

Part II

FROM the figures in Table I, the proportions of the four pyrethrinoids in the extract can be obtained. The extract employed contained 22.0 per cent true pyrethrins, and Table II shows the pyrethrinoids as proportions of this.

Part III. The Composition of the Pyrethrinoids Remaining in Partially Degraded Materials

BROWN AND PHIPERS (loc. cit) studied the fate of films of pyrethrum extract subjected to artificial irradiation and they observed that changes occurred in both the acidic and alcoholic portions of the molecule. "Chlorophyll" appeared to have a catalytic effect on the degradation of chrysanthemic acid and its presence in crude extracts rendered them highly unstable to light. Changes also occurred in the cyclopentenolone system but these were not so rapid and were found to be independent of the action of "chlorophyll." The presence of hydroquinone appeared to slow down both these types of degradation. Freeman (20), in considering these results, came to the conclusion that "chlorophyll" had no specific catalytic action on chrysanthemic acid. His arguments were based on the assumption that when Brown and Phipers used the Seil method of analysis, they removed some of the



false materials but did not do so when using the spectroscopic meth-

od. Brown and Phipers (21) however pointed out that their original

Table I. The distribution of pyrethrinoids in a pyrethrum extract

Component	Extinction Coefficient	Sum of optical densities		In arbitrary units		Weight ratio	
		Run 1	Run 2	Molar ratio Run 1	Run 2	Run 1	Run 2
Cinerin I	21400	832	1026	389	478	123	151
Pyrethrin I	38500	4704	5918	1210	1540	400	506
Cinerin II	28700	730	1122	254	394	92	142
Pyrethrin II	47200	3650	5052	773	1070	286	398

Table II. The composition of a pyrethrum extract

Run	Cinerin I	Pyrethrin I	Cinerin II	Pyrethrin II	"Pyrethrins I"	"Pyrethrins II"
1	2.95	9.80	2.75	6.50	12.75	9.25
2	2.76	9.25	2.60	7.25	12.01	9.85



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C-60A	220	190/198				
E-321	220	181/187	2.5	3 Max.	20/30	50/65
H-111	215	181/189	2.5	3 Max.	5/15	40/55
J-324	215	183/191	2.8	3 Max.	10/20	40/60
J-400	220	183/191	2.5	2.5 Max.	5/15	30/40
R-11 Flakes	215	194/203	1.5	2 Max.	5/15	30/40
R-21 Flakes	215	194/203	1.5	1.5 Max.	20/30	20/30
			3.5	1.5 Max.	3/15	3/15

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work took this point into consideration. Brown, Hollinshead, Phipers and Wood (*loc. cit.*) again investigated this problem using an alumina chromatogram to remove false pyrethrins from irradiated pyrethrum extracts and they confirmed that "pyrethrins I" disappeared more rapidly than "pyrethrins II." As mentioned earlier, they used different methods of analysis together with bioassays and they obtained some evidence that the pyrethrins were disappearing at a more rapid rate than the cinerins. With the use of a displacement chromatogram, it should be possible to obtain figures for the four pyrethrinoids present in such materials and thus obtain an insight into their fate in degraded materials. This has now been investigated and the results obtained are given below.

A. *Analysis of a crude pyrethrum extract after exposure to artificial irradiation:* Films of crude pyrethrum extract (22.0 per cent true pyrethrins) were irradiated in Petri dishes as described by Brown and Phipers (*loc. cit.*). After three days irradiation, the true pyrethrins content, determined as described earlier, was 5.5 per cent i.e. a 25 per cent survival.

The irradiated material (10 gm.) was dissolved in warm ether (20 ml.), light petroleum (80 ml. of b.p. 40-60°C.) added and the whole cooled in ice. The liquid was decanted and the residue twice extracted in a similar manner. The combined solutions in the above mixture were evaporated and the residue warmed with light petroleum (80 ml. of b.p. 40-60°C.) and again cooled in ice. The solution was decanted and the residue again extracted twice as just described. The combined solutions in light petroleum were filtered in the presence of a little filter aid and then evaporated. The residue was dissolved in a portion of the "chromatographic solvent" (about 10 ml.) and passed through a chromatogram containing activated alumina (15 gm. of grade III) in the manner described as the macro-method in

Table III. The composition of a crude pyrethrum extract degraded by artificial light

Pyrethrinoid	In arbitrary units			Amount in extract per cent	Amount surviving per cent
	Sum of optical densities	Molar ratio	Weight ratio		
Cinerin I	277	130	41	0.26	9
Pyrethrin I	118	307	101	0.64	7
Cinerin II	1846	644	232	1.45	56
Pyrethrin II	6342	1340	500	3.15	44

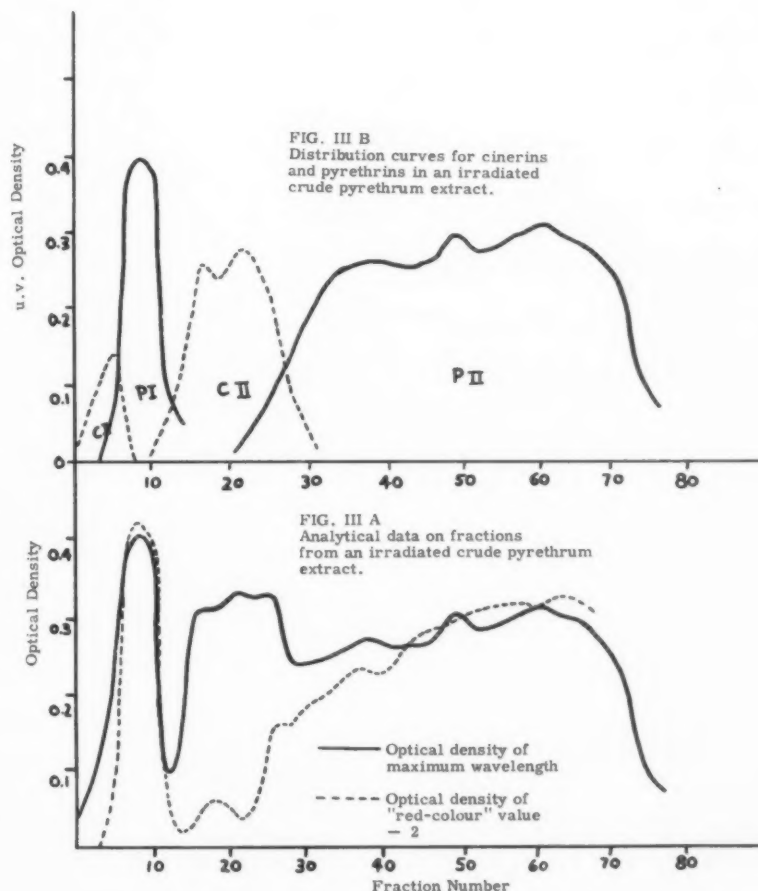
Part I. The eluate (200 ml.) was collected and analysis of an aliquot showed that no true pyrethrins had been lost in this preliminary purification. The solvent was evaporated and the residue dissolved in purified light petroleum, b.p. 100-120°C. (see Part II), the quantity employed being sufficient to give in an aliquot (5 ml.), a suitable quantity of pyrethrins (0.15 gm.).

This aliquot was fed onto a displacement chromatogram constructed as described earlier. In irradiated extracts, the carotenoid pigments have become bleached and are thus not available to serve

as a "marker" zone. The presence of a "marker" zone is of great convenience and a solution such as is being described may be tinted with a little of the forerun containing carotenoid material which has been obtained in another experiment. Such a solution may be added to the solution under analysis or added to the chromatogram just before commencement.

The chromatogram was then operated as described above and the fractions analyzed using the U.V. absorption method and the color test of Williams, Dale and Sweeney

(Turn to Page 97)



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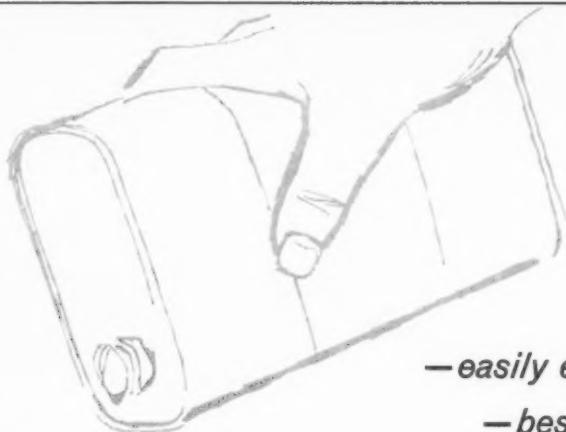
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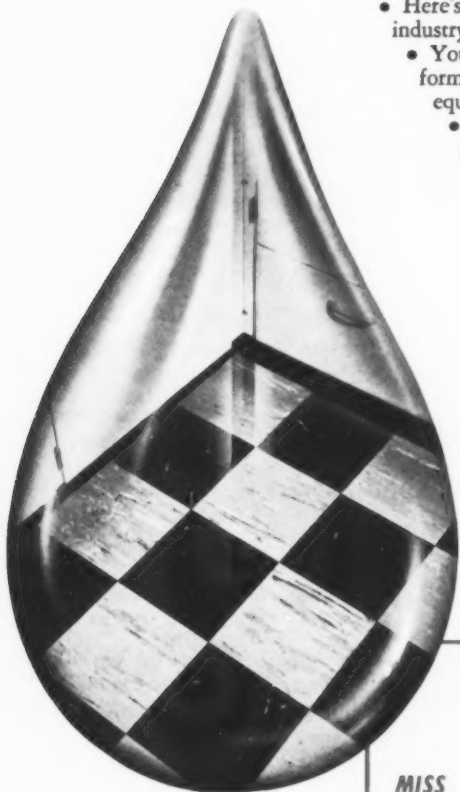
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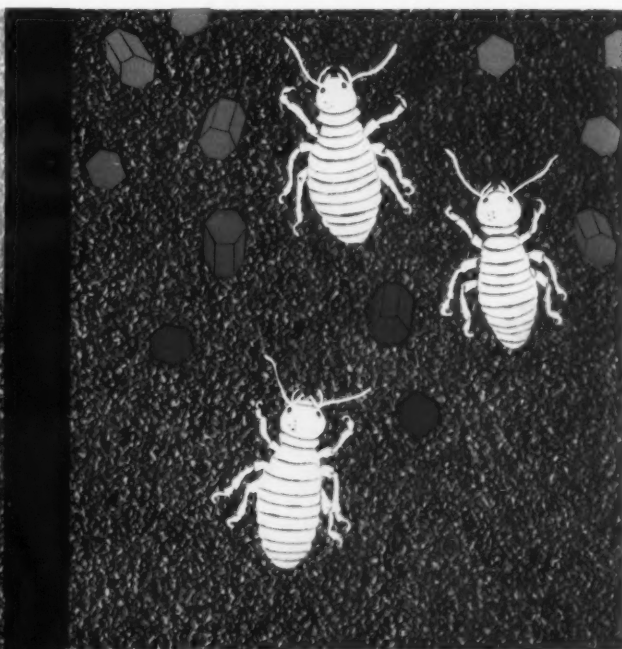
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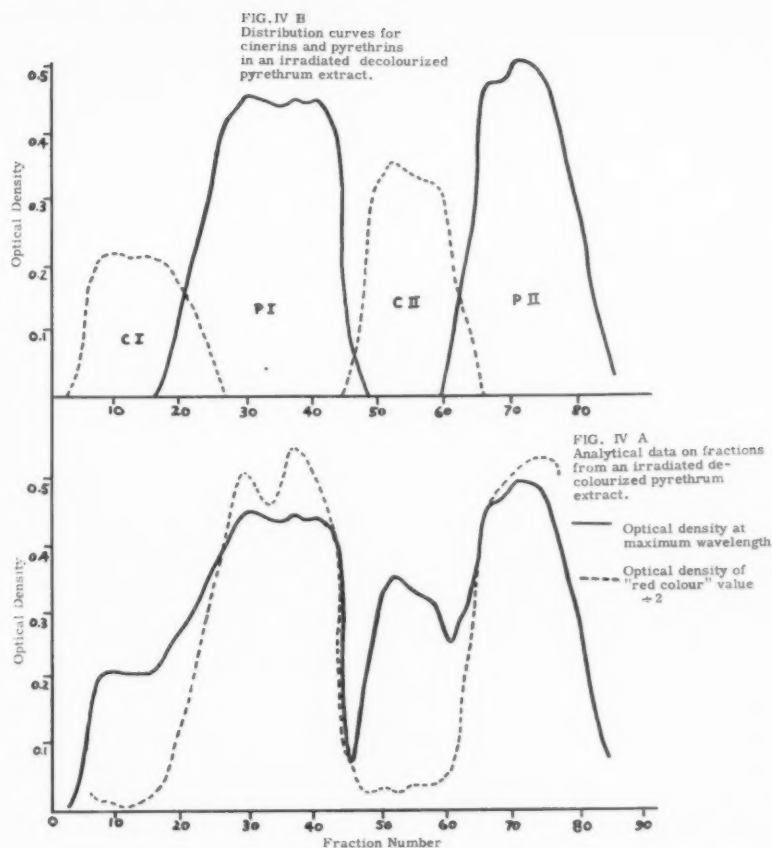
(From Page 93)

(*loc. cit.*). The results obtained, portrayed as before, are shown in Figs. IIIa and IIIb. The same methods of calculation were employed and the results are given in Table III.

The figures in the last column were obtained by dividing the quantities found in the degraded extract by the comparable figures found in the original extract (see Table I). These figures demonstrate quite clearly that the "pyrethrins I" degrade before the "pyrethrins II." Also it can be calculated that the survival of the cinerins is 32 per cent and that of the pyrethrins is 23 per cent; this is an indication of the greater stability of the cinerins.

B. Analysis of a decolorized pyrethrum extract after exposure to artificial irradiation: A crude pyrethrum extract was decolorized with fullers earth and irradiated for four days in Petri dishes in the manner described by Brown and Phipers (*loc. cit.*). The starting material contained 22.0 per cent of true pyrethrins and at the conclusion of the irradiation this figure, determined by aid of a simple chromatogram was 7.8 per cent, i.e. a survival of 35 per cent. The degraded material was freed from materials insoluble in light petroleum by the method described above and thereafter resolved on a displacement chromatogram. The analytical figures on the fractions, obtained from U.V. absorption observations and application of the "red-color" test, are shown in Fig. IV and the results of the calculations which can then be made are presented in Table IV.

In contrast to the previous



experiment, in this material there is little difference between the degradation of the "pyrethrins I" (67 per cent) and "pyrethrins II" (62 per cent). This finding then provides clear proof of the role of "chlorophyll" in a crude extract and the view of Brown and Phipers (*loc. cit.*) that it acts as a catalyst for the degradation of chrysanthemic acid is verified. Additional proof is also obtained of the greater instability of the pyrethrins compared with the cinerins.

C. Analysis of decolorized pyrethrum extract protected by an antioxidant after exposure to artificial irradiation: Brown and Phip-

ers (*loc. cit.*) obtained evidence of protective action of an antioxidant such as hydroquinone when added to films of pyrethrum extract subjected to artificial irradiation. Their experiment was repeated using a decolorized pyrethrum extract (22.0 per cent true pyrethrins) and hydroquinone, and this material was irradiated for 35 days when an analysis on a portion showed a true pyrethrins content of 4.8 per cent, i.e. a survival of 22 per cent. This degraded material was partially purified and then separated on a displacement chromatogram in the manner described above. The analytical figures of the fractions obtained by the U.V. absorption and "red-color" methods are given in Fig. V and the composition of the extract derived from these is given in Table V.

The presence of the antioxidant in this decolorized material has not markedly altered the mechanism of the degradation reaction but the rate of deterioration has

Table IV. The composition of decolorized pyrethrum extract degraded by artificial light

Pyrethrinoïd	In arbitrary units			Amount in extract per cent	Amount surviving per cent
	Sum of optical densities	Molar ratio	Weight ratio		
Cinerin I	335	157	496	1.47	53
Pyrethrin I	999	260	854	2.54	28
Cinerin II	483	168	604	1.79	69
Pyrethrin II	825	175	651	1.93	20

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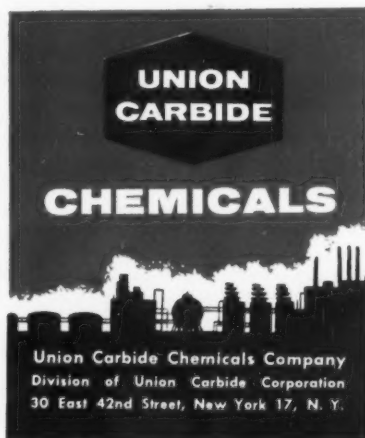
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Table V. The composition of a decolorized pyrethrum extract, protected by an antioxidant, degraded by artificial light

Pyrethrinoid	In arbitrary units			
	Sum of optical densities	Molar ratio	Weight ratio	Amount surviving per cent
Cinerin I	123	181	167	0.08
Pyrethrin I	334	289	266	1.25
Cinerin II	257	322	297	1.43
Pyrethrin II	375	296	273	1.32

been greatly reduced (approximately to one-eighth). The removal of "chlorophyll" has reduced the preferential disappearance of the chrysanthemic esters and again the cinerins show a greater degree of stability. In this experiment there is evidence to suggest that a point would be reached in which only the cinerins would survive and it may be that this would be predominantly cinerin II. Such a fact would agree with the findings of Brown, Hollinshead, Phipers and Wood (*loc. cit.*) who suggested that this could be the explanation of the lack of agreement of analytical results with those from bioassays in heavily degraded materials.

D. *Analysis of a decolorized pyrethrum extract severely degraded by exposure to artificial light:* The experiment described in (b) above was repeated but the period of exposure was lengthened until the starting material (22.0 per cent true pyrethrins) had suffered severe degradation. In this experiment, the amount surviving was 13 per cent (2.8 per cent true pyrethrins). It is pertinent to point out that these survival figures were obtained by use of the sulfur-color test and thus will be subject to slight errors owing to the variation of sulfur-color intensity with composition which has already been discussed. The degraded material was partially purified and then separated on a displacement chromatogram in the manner described above. The fractions were collected and analyzed as described and the results obtained are presented in Table VI.

These results indicate quite clearly the greater stability of the cinerins. Also, once again, the greater instability of the chrysanthemic acid esters is shown. In the example

given it would appear that pyrethrin I is more stable than pyrethrin II but the figures obtained are of such a low order that it is unwise to make deductions.

The authors wish to thank J. M. Holborn, J. C. Wickham,

Miss M. Davies, and Miss M. M. A. Merrick of this organization for carrying out the biological tests and J. Ward of Rothamsted Experimental Station, Harpenden, for much helpful advice and guidance on the use of displacement chromatograms. The authors also wish to thank the directors of Cooper, McDougall and Robertson, Ltd., for permission to publish these findings.

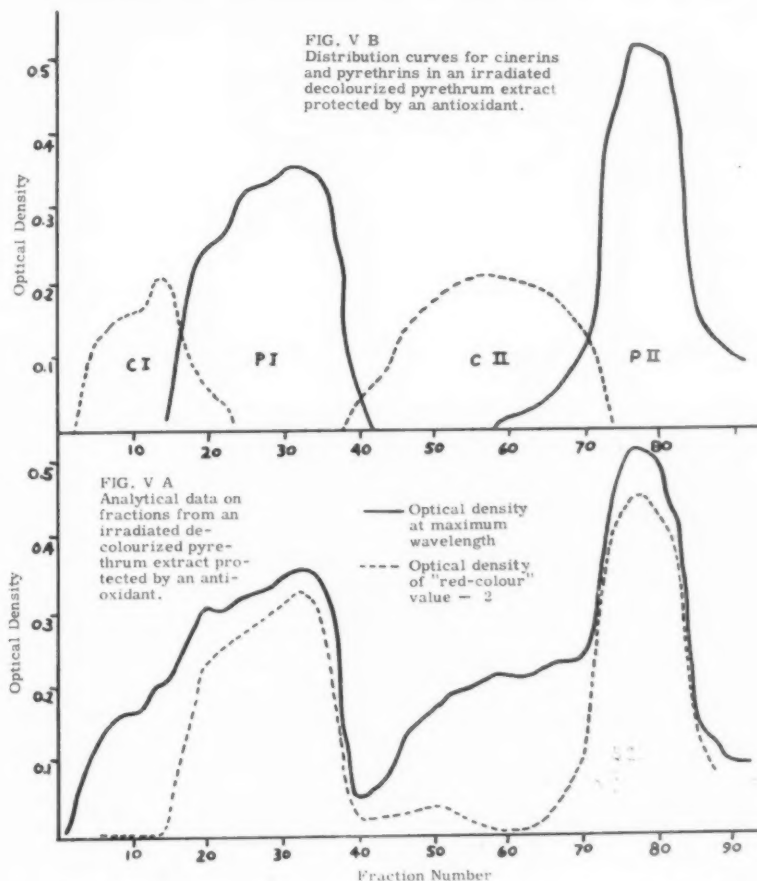
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- Williams, H. L., Dale, W. E., & Sweeney, J. P., *J. Assoc. Off. Ag. Chem.*, 1956, 39, 872.

(Turn to Page 109)

Table VI. The composition of a decolorized pyrethrum extract which has been severely degraded by exposure to artificial light

Pyrethrinoid	In arbitrary units			
	Sum of optical densities	Molar ratio	Weight ratio	Amount surviving per cent
Cinerin I	246	115	364	1.06
Pyrethrin I	79	21	69	0.22
Cinerin II	379	132	475	1.43
Pyrethrin II	33	7	26	0.09



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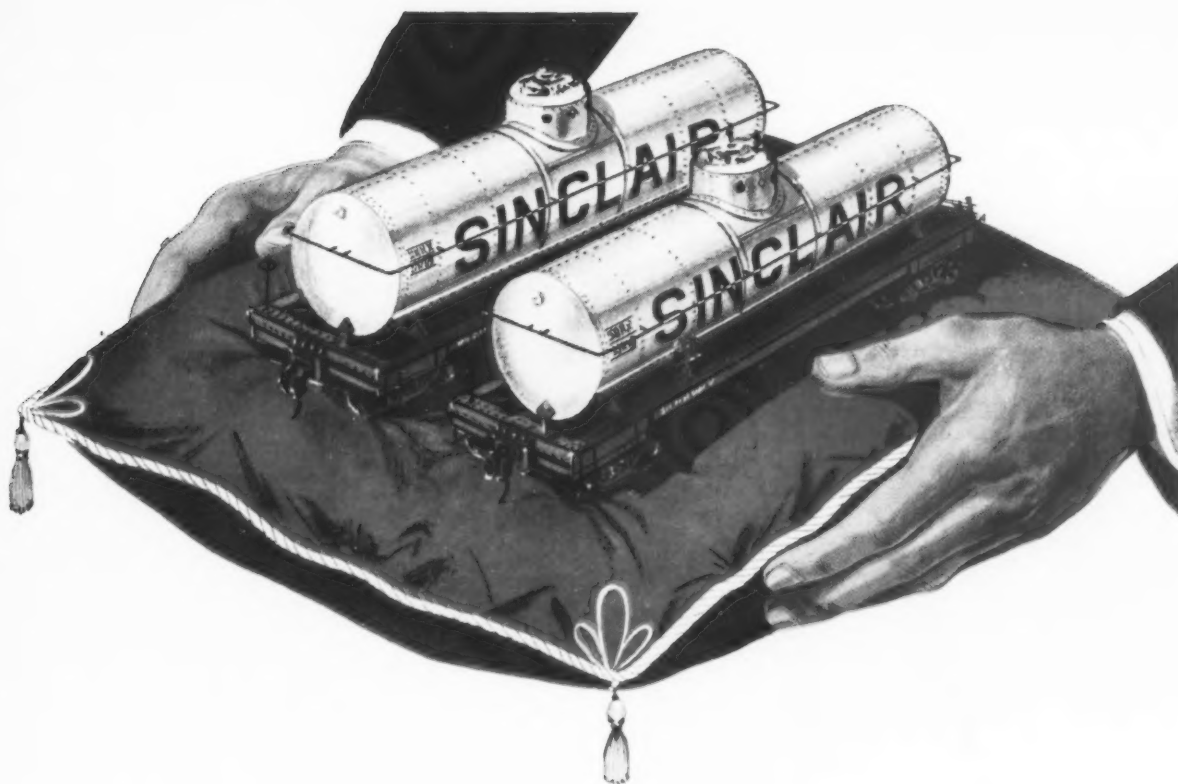
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Surfactant Congress

(From Page 59)

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Solutions of the aromatic compounds beyond the point of maximum viscosity appear to contain two components. These are thought to be two distinctly different types of micelle, which are derived from the long rod-shaped type, and which are in stable reversible equilibrium.

"Chelation at Interfaces." By R. L. Smith (Norman Evans and Rais, Ltd., Stockport, England.)

Chelation at the liquid/liquid interface is considered from the standpoint of equilibrium constants and distribution ratio of metal where the agent is in the non-aqueous phase, and in more general terms where the chelating agent is in the aqueous phase or agents are present in both phases. Chelation at the solid/liquid interface is generally reviewed followed by more detailed treatment of chelating resins with amino carboxylic acid groups.

"The Stability of Foams." By T. G. Jones, K. Durham, W. P. Evans and M. Camp (Research Department, Unilever Limited, Cheshire, England.)

A critical review of published work on foams shows that there is some confusion about the factors which influence stability. Consequently there is no satisfactory general theory. The most important theoretical contribution is that of Gibbs, who considered foam stability as an "equilibrium" condition.

The persistence of foams and thin films is discussed on the basis of Gibbs' work. The modifications necessary to extend his treatment to the non-equilibrium conditions obtaining in practice are considered and are shown to be: (a) dynamic surface tension; (b) surface transport; and (c) electrical double layer interaction.

"Solubilization by Association." By D. G. Dervichian (Institut Pasteur, Paris.)

The system potassium caprate + n-octanol + water has been systematically investigated from the phase equilibria point of view. In the isotropic aqueous solutions, only one mol. of octanol can be dissolved for two mols of soap. On the complete triangular phase diagram, the region of solubilization of the additive in the soap solution appears only as part of a series of possibilities of association of water, soap and octanol into different isotropic or anisotropic phases.

"The Coalescence of Aqueous Droplets With an Oil/Water Interface." By G. A. H. Elton and R. G. Picknett (Battersea Polytechnic, London, S.W.)

This paper is concerned with the stability of aqueous droplets resting on an oil/water interface. Such a droplet will remain in apparent contact with the interface for some time until, suddenly, coalescence takes place. This "rest time" on the interface is sensitive to the presence of electrolytes in the aqueous phase, and to various other factors. (Previous workers in this field have found that contamination and slight temperature gradients caused erratic results.) The present work was carried out at temperatures which were very carefully regulated. The apparatus used was designed so that contamination could be eliminated and important factors, such as droplet size, curvature of the oil/water interface, etc. could be controlled.

Analysis of the results supports the theory, proposed by earlier workers, that the process controlling the "rest time" is the drainage of the liquid trapped between the drop and the interface. The effects of type and concentration of added electrolyte are discussed, and it is shown that electrical double-layer forces are important in determining the magnitude of the rest time.

"Dewaxing of Mineral Oils with

Surface Active Agents." By H. Mondria (Konink./Shell Lab., Amsterdam.)

An unconventional process is described for dewaxing mineral oils. Instead of filtering the crystal mass obtained by chilling the oil usually as a solution in a suitable solvent) the wax is transferred from the chilled solution to an auxiliary aqueous phase with the aid of water-soluble surface active agents by utilizing the phenomenon of wetting reversal. The suspension of wax in the auxiliary phase is separated from the wax-free solution of oil in solvent, and the former is treated with fresh solvent in order to reduce the oil content of the wax. The wax may be recovered from the dispersion by several methods, one of which is based on wetting reversal.

The process has, with certain limitations, proved successful in laboratory and pilot plant trials. In a number of applications it bids fair to be more efficient and/or less costly than the filtration-and-sweating method or the selective solvent-filtration process.

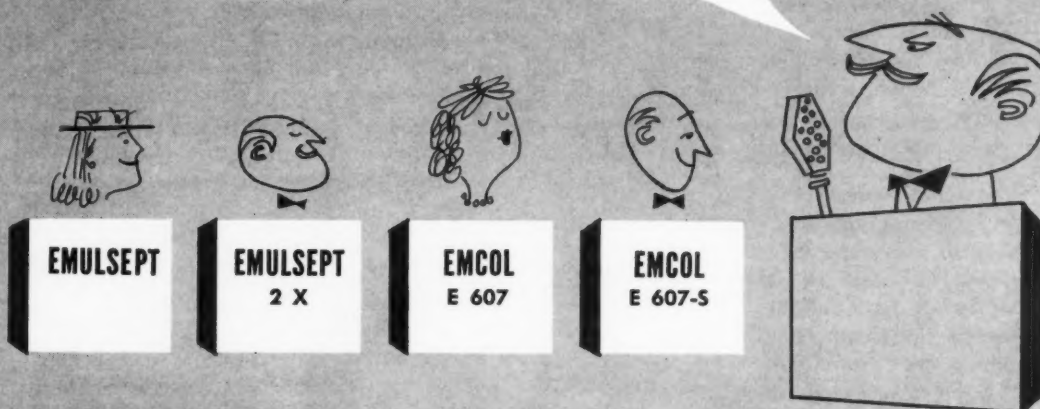
"Adsorption Inhibition of Metallic Corrosion." By T. P. Hoar (Dept. of Metallurgy, University of Cambridge.)

The inhibition by adsorbed organic molecules of the acid and atmospheric attack of metals is reviewed, and the relation of its problems to those in similar fields is noted.

"Protective After-Effect of Cutting Emulsions and Their Lubricating Properties." By A. Nasini (Istituto Chémico, University of Turin), G. Ostacoli, and G. Zazzaroni.

The inhibiting after-effect, i.e. the ability of cutting emulsions to protect the metal surface (also, sometimes, after the removal of the emulsions), together with their lubricating properties, have been studied. To obtain a better understanding of the mechanism of formation of a protective film on the surface, measurements were made

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of the electrode potential of iron specimens contaminated with several simple types of emulsions, or mechanically covered with a layer of the components of the emulsion itself, in different conditions. Contemporaneously, friction coefficients of the contaminated surfaces were measured against a hard steel slider with an increasing number of runnings on the same track and light loads. The best inhibiting effects were always obtained for the oil/water emulsions.

Emulsions prepared with a non-ionic emulsifier also give good protection and frictional behavior. A discussion of the results is given in this most interesting paper.

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Abstracts and other matter briefly quoted in the foregoing are taken from the preprint material made available in three volumes to subscribing members of the Congress, under the title "Preprinted from the Proceedings of the Second International Congress of Surface Activity" London: Butterworth's Scientific Publications, 1957. It seems probable that an American edition of this work may become available shortly.

Fatty Acid Soaps

(From Page 54)

25 to 50 per cent of a fine abrasive such as pumice (16). Of course, with the fatty acids, the soap with proper water content can be made by direct neutralization.

The newest of the products for skin cleaning in the washrooms and showers of industry are the paste or cream soaps. They compete with the liquid and powdered varieties. These products offer economy advantages to industry in that they employ a dispenser that need not be mounted over the washbowl. They require no plumbing for their dispensers as do the multiple-unit installations for liquid soaps. They are not wasteful to use, particularly in showers. Generally they are of lower pH than conventional soaps and also

offer a measure of body deodorization from the incorporation of soap-compatible bacteriostats. Formulas have not yet reached the literature, but they employ coconut fatty acids to promote adequate suds as well as shorter chain saturated acids together with lanolin and soap-compatible syndets of the alkylolamine or fatty acid sulfate type. Products of cosmetic quality can be formulated from the highly refined acids.

Salt Water Soaps

SOME salt water bar soap (16) still is made from a mixture of alkyl aryl sulfonate detergent (25 per cent) with soda soap made from tallow and coco fatty acids (40 per cent). Complex phosphates are used as builders.

Leather Cleaners

SPECIALTY cleaners for leather goods are an important market outlet for fatty acid soaps or fat-based detergents. In this connection the comments of H. S. Streatfield (17) are worth reflection: "Most of the 'new ideas' on leather and saddle soaps suffer from a contradictory complexity of intensions . . . the desire to include everything at once . . . they (referring to leather cleaners as well as to a variety of cleaner-polishes and cosmetic creams) represent an attempt to perform several opposing and mutually incompatible operations simultaneously." He offers for a leather cleaner a "straightforward" household or soda soap as a base together with a very mild abrasive of diatomaceous earth of kaolin and a solvent of the hydrogenated phenol type as a minor ingredient. However, he recommends experimenting with a humectant and traces of dye to make up losses during cleaning. A suitable saddle soap (16) is essentially a soda soap of palm oil fatty acid containing a little rosin and one or two per cent of a hard wax.

F. A.-Based Syndets

IN A recent list of surface-active agents, about 200 out of some 700 are derived from fatty acids or

contain typical fatty chain groups. These include the condensates of fatty acids with amines, polyhydric alcohols and ethylene oxide; the esters, the sulfates and sulfonates, cationic quaternary ammonium salts, and a class known to be amphoteric in nature. Most of these find their way into specialty cleaners of one kind or another. In a very complete recent survey, Pacifico and Ionescu (18) have set forth market information and the properties required of syndets in specialty cleaners as well as in most other fields.

Among the early syndets of importance were the fatty alcohol sulfates made by sulfation of alcohols derived from lauric and later palmitic and tallow fatty acids and from sperm oil. The lauryl sulfates, offering copious and stable foam, are rather expensive for many specialty products. However, they are used in shampoos and in hand soaps to promote and sustain foam. The tallow sulfates are well liked in textile cleaning — the C4 to C10 alcohol sulfates as wetting agents in mercerizing (19) and in the laundry trade for high temperature (130°) cleaning. They are said to be better emulsifiers than the shorter chain sulfates. Another recent group of sulfates, the fatty alcohol ether sulfates, derived from addition of ethylene oxide to the fatty alcohols followed by sulfation, is finding use in specialty soaps such as liquid cleaners for walls, floors and in car wash formulas. (20)

Considerable amounts of fatty acids are used to produce the sulfated monoglycerides through esterification with glycols. Fatty acids may be condensed with amines to give amides which are sulfonated to form detergents. Both of these types offer good foam and detergency but rather poor alkali stability. They are mild to the skin and are used in a variety of specialty soaps such as bubble baths, rug cleaners, glass cleaners, cream and clear shampoos, liquid general purpose cleaners, hand soaps and car wash soaps. (21)

Fatty acid chlorides such as

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oleyl chloride may also be condensed with sulfonated amines such as methyl taurine to give a type of sulfonate. These more expensive syndets are very stable in acid and alkaline environment. They are very resistant to hard water and are high sudsing efficient detergents. They also are good lime soap dispersants. Since their detergency is improved with electrolytes, they are used as sea water soaps and in the textile industry. Most of the syndets just described are anionics and may be used with fatty acid soaps in a wide variety of specialty products.

A few syndets of cationic character use fatty acids. One type in common use as a textile detergent and a softener is worth mention. It is the tertiary amine derived from condensing fatty acids with ethylene oxide. As more of the adduct is added, the products tend toward a non-ionic character. The fatty acids generally used are coco, soya, tallow, and stearic acids. Similar types of syndets are available with amide or ester linkages — all of which offer a wide range of properties for varied uses. (22) They are found in formulas for metal cleaners and buffers, textile scouring, waterless hand cleaners, and as emulsifiers in many industrial and agricultural emulsions.

Several well known brands of syndets result from the condensation of fatty acids with heterocyclic amines. In various forms, these are used as water soluble detergents, for detergency in dry cleaning, and in acid cleaner baths for textile and metal cleaning. Trimethylammonium chloride salts of a variety of fatty acids make up a well known line of quaternary ammonium compounds with germicidal properties useful in sanitizing detergents, fabric cleaners, metal cleaners, and as emulsifier aids in a variety of emulsion cleaners. (23)

Among the non-ionics, several fatty acid based syndets are important to mention. In very widespread use are the condensation products of fatty acids with

diethanolamine by the Kritchevski reaction. Estimated use of these materials is about 25 million pounds with more than half going into powdered and liquid household detergents for dishwashing and laundry cleaning. (24) These condensates have been mentioned previously for use in hand cleaners. They find application also in various types of liquid detergent concentrates because of their thickening, suspending and deterative properties. The more oil-soluble types are useful in dry cleaning as they form stable water-in-oil emulsions.

Ethylene oxide adducts of this type of syndet are the basis for a group of surfactants consisting of emulsifiers, detergents, wetting and dispersing agents as the addition of more ethylene oxide increases the hydrophilic character of the product. (22) Low titer fatty acids are used (usually red oil, rosin or tall oils) and the products are most useful for laundry and dishwashing formulations.

The versatile ethylene oxide can also be condensed directly with fatty acids or their alcohols to provide non-ionics with a varying hydrophobic base. Several fatty acids are used — lauric, oleic, tallow, castor, soya, tall oil, and stearic. They are good detergents over a wide pH range, and are used in the textile field, (where dyeing and rinsing are often carried out under acid conditions (25) and in rug and upholstery cleaning, wall and floor cleaning, dry cleaning, metal cleaning and in the sanitizer and germicide cleaners.

Finally, two of the newest syndet types involving fatty acids are the ampholytics and the esters derived from sugar. The ampholytic syndets are cationic in the lower pH range and anionic in the higher range. These polyfunctional materials exhibit a wide range of interesting properties depending on the fatty acid used in their make-up and on the use environment pH. Typical of the ampholytics is the family of syndets from alkyl beta-amino propionates. (26) Fatty acids used are lauric, coco, stearic, and

tallow. Suggested uses among the specialty soaps are liquid heavy duty cleaners, hard surface cleaners, fabric cleaners, detergent-sanitizers, leather cleaning, and cold water soaps for woolens.

Synthetic detergents made from tallow fatty acid alcohols esterified with sucrose are now reaching the market. (27) There is little information yet on their uses but their properties will undoubtedly suggest outlets. They are said to be odorless, tasteless, non-ionics offering low to moderate foam. Although some appear to be hygroscopic, it is claimed that they are available as free-flowing powders. These esters should have the additional advantage of a cheap and plentiful source of raw material — sugar.

Space does not permit a detailed presentation of the properties and uses of these many fatty acid-based syndets together with illustrative formulas, but a great deal of useful information is available from the references cited.

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Appendix. Biological Tests with Chromatographed and Unchromatographed Pyrethrum Extracts

(I.) A comparison of knock-down efficiency against houseflies using a modified Kearns and March technique: A quantity (0.6 g.) of a pyrethrum extract (25.1 per cent total, 22.1 per cent true pyrethrins) was dissolved in odorless petroleum distillate (50 ml.) and appropriate dilutions with this solvent were made giving two test solutions, 0.05 per cent and 0.10 per cent w/v of total pyrethrins. Another portion (0.6 g.) was dissolved in the chromatographic solvent (10 ml.) and the whole chromatographed as described in Part I, Section A of this communication. The total eluate was collected, evaporated and the

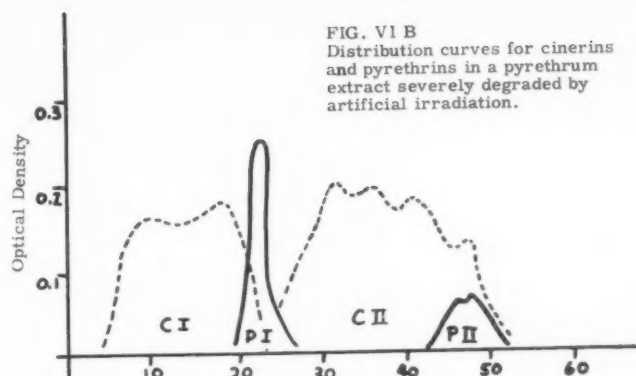


FIG. VI B
Distribution curves for cinerins and pyrethrins in a pyrethrum extract severely degraded by artificial irradiation.

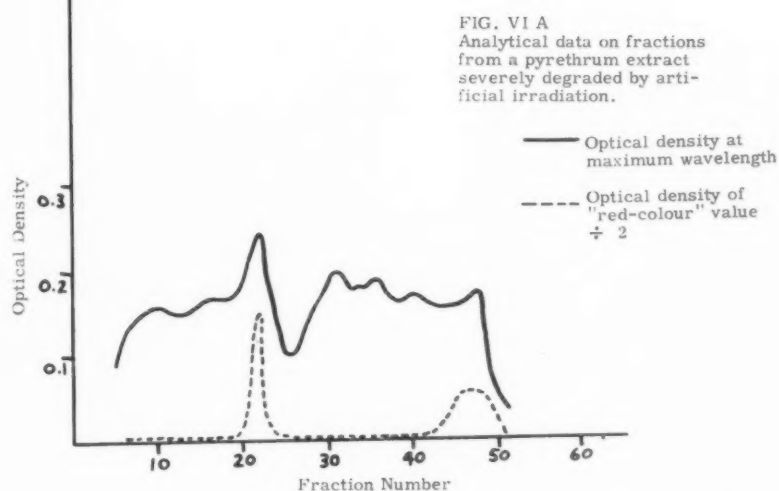


FIG. VI A
Analytical data on fractions from a pyrethrum extract severely degraded by artificial irradiation.

residue dissolved in odorless petroleum distillate (50 ml.). The same dilutions as above were made. By this means both sets of solutions would contain the same amount of insecticidal material if the chromatogram removed no material of biological value.

These solutions, together with the Official Test Insecticide were used in knockdown tests

against adult houseflies (*Musca domestica* L.) using a modification of the Kearns and March test described by Kettle (22). The results, given in Table I, represent the means of six replicate tests using about 100 flies per test.

In the above tests, the differences in the results obtained with chromatographed and unchromato-

(Turn to Page 113)

Test I. The comparative knockdown efficiency against adult *Musca domestica* L. of chromatographed and unchromatographed pyrethrum extract. Tests using a modified Kearns and March technique

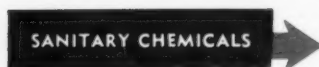
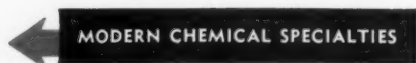
Solution	% knockdown after stated minutes:										K.D. 50 mins.
	1/2	1	1 1/2	2	3	4	5	6	7	8	
0.05% w/v pyrethrins, CH	7	13	24	38	56	67	77	83	86	91	2.75
0.05% w/v pyrethrins, UCH	6	15	18	28	50	63	76	79	85	90	3.00
0.10% w/v pyrethrins, CH	10	36	56	73	87	94	97	97	98	99	1.45
0.10% w/v pyrethrins, UCH	10	24	45	64	79	92	94	96	97	98	1.65
0.10% w/v pyrethrins (O.T.I.)	8	19	35	62	74	84	90	94	96	97	1.75

The K.D. 50 value has been corrected for the sex factor; CH = chromatographed; UCH = unchromatographed.

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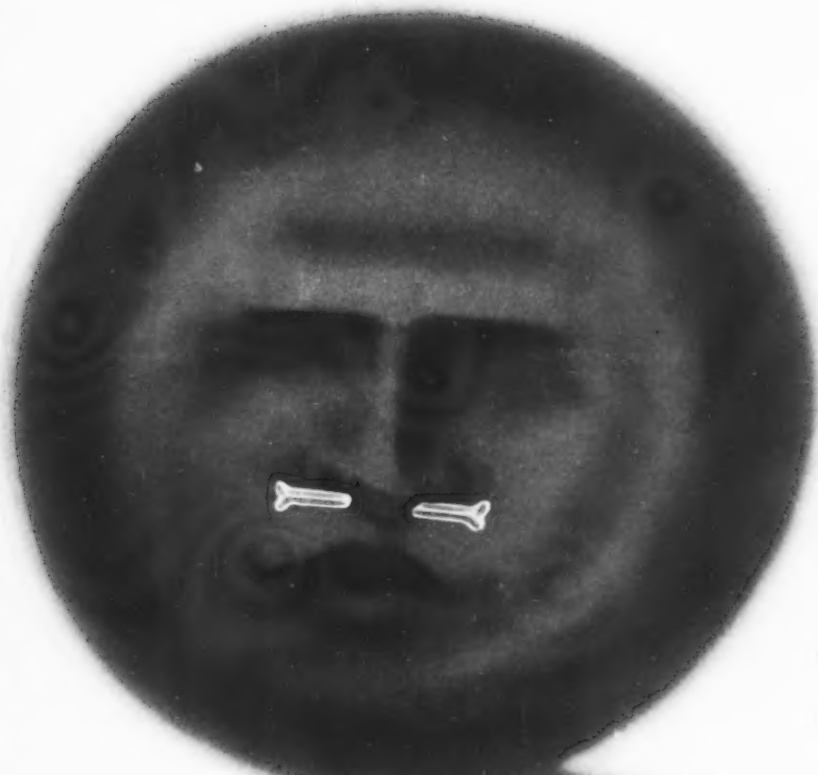
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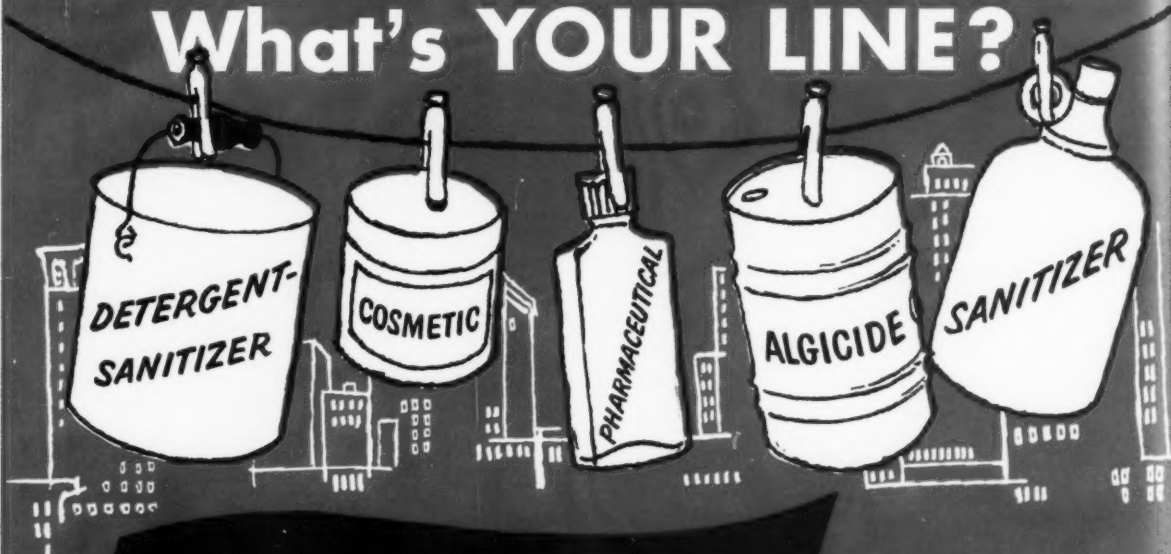
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(From Page 109)

graphed pyrethrum extracts are not considered significant and it is concluded that passage of the extract through a chromatogram does not affect its biological efficiency.

(II.) *A comparison of the mortality obtained against houseflies using a measured-drop technique:* Three different pyrethrum extracts were used to make up the following solutions. Ethyleneglycol monoethyl ether was substituted for odorless petroleum distillate in the method described in (I) above. Each extract provided chromatographed and unchromatographed material which with the solvent chosen gave strengths of 0.30 and 0.50 per cent w/v pyrethrins.

These solutions were used in mortality tests against adult houseflies (*Musca domestica* L.) using a measured-drop technique. An "Agla" micrometer syringe, modified as described by Glynn-Jones and Lowe (23), was used. The dosage applied to each male fly was 0.01 μ l. and to each female was 0.2 μ l. The mortalities were determined after 24 hours. Full details of this method of test will be published soon. The results obtained are given in Table II. Approximately 60 flies were used for each test. In a control test using ethyleneglycol monoethyl ether alone no mortality was observed.

These experiments again show no significant effect caused by

Table II. The percentage mortalities of *Musca domestica* L. obtained with chromatographed and unchromatographed pyrethrum extracts. Tests using a measured-drop technique.

Solution	Sex of flies	Dose per fly μ l.	Extract A		Extract B		Extract C	
			CH	UCH	CH	UCH	CH	UCH
0.30% w/v pyrethrins*	Male	0.1	45	45	46	35	50	45
	Female	0.2	24	16	13	8	14	10
0.50% w/v pyrethrins**	Male	0.1	60	62	68	65	64	59
	Female	0.2	36	41	34	36	38	35

* Means of three replicate tests.

** Means of six replicate tests.

Table III. The percentage mortalities of *Lasioderma serricorne* F. obtained with chromatographed and unchromatographed pyrethrum extracts. Tests using a measured-drop technique

Solution	Extract A		Extract B		Extract C		Controls using ethyleneglycol monoethyl ether
	CH	UCH	CH	UCH	CH	UCH	
0.025% pyrethrins w/v*	42	48	42	44	43	42	11
0.04% pyrethrins w/v**	78	76	80	80	77	81	

* Means of 14 replicate tests.

** Means of 17 replicate tests.

chromatography.

(III.) *A comparison of the mortality obtained against cigarette beetles using a measured-drop technique:* Solutions of pyrethrins in ethyleneglycol monoethyl ether were prepared from three different pyrethrum extracts, before and after chromatography, as described in (II) above. In these experiments the concentration of pyrethrins was 0.025 per cent and 0.04 per cent w/v respectively.

These solutions were used in mortality tests against adult cigarette beetles (*Lasioderma serricorne* F.) by the measured-drop method described in (II). The dosage applied was 0.01 μ l per beetle, no

differentiation between sexes being made. Approximately 50 beetles were used in each test and the results obtained are given in Table III.

No evidence of loss of biologically-active material can be observed in these experiments.

(IV.) *A comparison of the biological efficiencies of powders when used against cockroaches:* Solutions of pyrethrins from a pyrethrum extract were prepared before and after it had been chromatographed. This was carried out as described in (I) above but the solvent used was chloroform in place of odorless petroleum distillate. An aliquot containing the de-

Table IV. The comparative biological efficiencies of powders containing chromatographed and unchromatographed pyrethrum extract. Tests with *Periplaneta americana* L. using the dusting technique

Dusts	Stage of Insect	% knockdown after:						% Dead and moribund after:		
		5 mins.	10 mins.	15 mins.	30 mins.	45 mins.	60 mins.	1 day	2 days	3 days
0.05% w/w pyrethrins	CH Males	15	56	96	100	100	100	100	100	100
	CH Females	3	23	66	90	96	96	96	100	100
	CH Nymphs	0	1	5	43	86	86	46	56	57
	UCH Males	20	73	96	100	100	100	100	100	100
	UCH Females	15	26	60	100	100	100	96	96	100
	UCH Nymphs	0	0	3	61	76	93	65	68	66
0.075% w/w pyrethrins	CH Males	36	90	100	100	100	100	100	100	100
	CH Females	10	46	83	96	100	100	100	100	100
	CH Nymphs	1	0	30	63	75	80	93	95	95
	UCH Males	26	80	100	100	100	100	100	100	100
	UCH Females	6	33	76	96	100	100	100	100	100
	UCH Nymphs	1	3	20	65	85	91	91	91	91
Carrier only		0	0	0	0	0	0	0	0	0

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Test V. The percentage mortalities of *Tribolium castaneum* H. obtained in tests with chromatographed and unchromatographed pyrethrum extracts using the Grain Admixture technique

% pyrethrins, w/w, in carrier	0.15	0.225	0.33	0.50	0.75	1.0	Controls (carrier only)
p.p.m. pyrethrins, w/w, in wheat	15	22.5	33	50	75	100	
Chromatographed extract	6	13	42	69	79	90	3
Unchromatographed extract	11	23	42	71	88	93	—

sired amount of pyrethrins was added dropwise to a weighed quantity of oat meal dust. After a preliminary mixing, the powder was placed in a dish in a dark place and left overnight. Next the impregnated powder was mixed well. From chromatographed and unchromatographed materials two sets of powders were prepared containing 0.05 per cent and 0.75 per cent w/w of pyrethrins respectively.

The powders were used against adult and nymph American cockroaches (*Periplaneta americana* L.) employing the dusting technique described by Goodwin-Bailey (24). Ten adults, aged from one to four weeks, and 10 nymphs, selected for large size, were used in each of the tests. The results obtained are given in Table IV, where the figures represent the means of six replicate tests. Again, no evidence of any change resulting from passage through a chromatogram can be observed.

(V.) *A comparison of the mortality obtained against the rust-red flour beetle using a grain-admixture technique:* Dusts using oatmeal dust as a carrier were prepared from a pyrethrum extract before and after the chromatographic treatment, in the manner described in (IV) above. The following concentrations were prepared: 0.150, 0.225, 0.330, 0.500, 0.750 and 1.000 per cent w/w.

The powders were used against adult rust-red flour beetles (*Tribolium castaneum* Hbst.) reared on fine millers offal. The beetles were used at an age of two to three weeks in the grain-admixture method of test described by Goodwin-Bailey and Holborn (25). The powders were applied at 1.0 per cent

w/w in Manitoba wheat and 50 beetles were used in each test. The results, given in Table V, are the means of four replicates. There is no evidence of loss of biologically-active material in these experiments.

Summary

DETAILED testing of various preparations against a variety of insects has failed to reveal any effect on the biological properties of a pyrethrum extract, after the latter has passed through an alumina chromatogram such as is described earlier in this paper.

Nonionic Surfactants

(From Page 51)

for household dishwashing compounds. They are particularly effective on butter fat and accordingly have found substantial use as dairy cleaners.

In this connection, there is some evidence that detergent sanitizers containing quaternary ammonia bactericides are more effective when formulated with "Nonics" than with non-sulfur types. The activity of the quaternary is curtailed somewhat by the thioether nonionics, but to a lesser degree than by the oxygen-linked analogues.

Thioether nonionics are compatible with all the ordinary anionics, cationics and nonionics, and combinations of "Nonic 218" with anionics such as the alkarylsulfonates and alcohol sulfates are extensively used in various kinds of cleaners. A relatively small proportion of such anionics substantially enhances foam volume and foam stability of the "Nonic". Nonionics of the fatty alkanolamide type have these properties to a somewhat

greater degree than the anionics. In aqueous formulations other properties can be adjusted by incorporation of appropriate additives: sodium nitrite for corrosion inhibition; acrylic polymers, C.M.C., jaguar gum, even sodium chloride if judiciously used, as thickeners; kerosene, mineral oil, etc. to form gels; soap or fatty acids to reduce foam; alcohols or glycols to couple incompatible systems; triethanolamine to prevent rusting of steel after detergent degreasing.

Conclusion

We have discussed in a limited way something of the derivation, properties and uses of the thioether type nonionics. Certain limitations on their use as well as potential advantages due to the reactivity of the sulfur atom have been pointed out. In non-oxidizing neutral and alkaline environments appropriate members of this series can provide high-level performance in any of the various functional areas of surface activity: detergency, emulsification, wetting, penetrating, dispersing, foaming. General purpose members combine these characteristics.

—★—

Fels Honors Ohio Rep.

Fels & Co., Philadelphia, recently paid tribute to its Ohio sales representative, Housum Kline of Cleveland, at a luncheon commemorating the 50th year of continuous association with the brokerage firm. The affair was held at the University Club of Cleveland.

Housum Kline has been representing "Fels Naptha" bar soap in northeastern Ohio since 1907, and more recently "Instant Fels Naphtha" and "Gentle Fels."

Highlight of the ceremony was presentation of a gold plaque to Kenneth M. Lamo and Fred H. Jantz of Housum Kline for 50 years of outstanding service by their organization. Fels' officials participating in the program were C. G. Cox, president, Max Brown, sales director, and J. N. Seifert, division manager.

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Lithography: Colloid for diazo and dichromate sensitizers. Excellent post-etch. In fountain solution, helps keep cloth rollers clean.

Paints: Improves pigment dispersion and film leveling. Makes possible use of dyes to obtain new colors and shades.

Waxes and Polishes: Improves luster, cleansing action, flow, and wetting.

Cosmetics: In hair preparations, PVP improves hair management. Acts as a detoxifier. Stabilizes lathers in shaving preparations and emulsions in skin cleansing products.

Pharmaceuticals: Minimizes toxic side effects of many drugs. Prolongs drug action and increases effective blood level. Acts as suspending agent in liquids and binder in tablets.

Beverages: Removes chill haze and acts as a clarifying agent by complexing with and precipitating tannins in beer, wines and fruit juices.

Adhesives: Gives stable dispersions of vinyl adhesives and superior adhesion.

Paper: Produces better pigment dispersions, smoother coatings. Improves wet strength and ink receptivity.

Inks: Better gloss and pigment dispersion. Increases solubility of dye-stuffs and prevents gelation. Can improve ball-point inks, type-writer ribbons and carbon papers.

Textiles: Prevents flocculation of titanium dioxide in delustering of synthetic fibers. Adaptable as warp size for acetate and viscose. Improves dye receptivity of hydrophobic fibers. Dye scavenger in print washes.

Glass: Gives outstanding adhesion to glass surfaces. Acts as a glass fiber forming size for increased strand strength.

There's a lot more to know about PVP. Write for complete information on this versatile chemical.



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CSMA Program for Hollywood Beach

A FEW details of the program for the 44th annual meeting of the Chemical Specialties Manufacturers Association were announced early this month by H. W. Hamilton, secretary. The three-day meeting will be held at the Hollywood Beach Hotel, Hollywood, Fla., Monday, Tuesday and Wednesday, Dec. 9, 10, and 11. This is the first resort meeting CSMA has had since June 1948 and promises to be one of the best attended in the history of the association. Registrations are running exceptionally heavy. For the first time presentation of papers and technical reports will be confined to the morning sessions, leaving afternoons free for recreation and committee meetings.

One of the technical highlights will be a symposium on analytical methods for surfactants arranged by the Soap, Detergent and Sanitary Chemical Products Division of CSMA. Participants will be: E. W. Blank, Colgate-Palmolive Co., New York; R. C. Ferris, Purex Corp., South Gate, Calif.; H. L. Sanders, Ninol Division, Stepan Chemical Co., Chicago; R. C. Stillman, Procter & Gamble Co., Cincinnati, and John Wilson, Economics Laboratory, Inc., St. Paul, Minn.

The Aerosol Division will hear Dr. Martin Barr of the Philadelphia College of Pharmacy and Science on "Pharmaceutical Aerosols." "Observations on Aerosol Protective Coatings" will be presented by Ludwig J. Hecht, Lenmar Lacquers, Inc., Baltimore, Md., and Thomas H. Reilly of General Electric Co., Waterford, N. Y., will speak on "Aerosol Silicones."

Before the Automotive Division, Wanda L. Campbell, Chemical and Materials Corp., Terre Haute, Ind., will speak on "Solvents Used for Cleaning Automotive Engines." "Helpful Remarks to Manufacturers of Cleaners, Sealers and Inhibitors for Future Automotive Systems" will be presented by L. M. Lawton of General Motors Co. An antifreeze symposium will be held by the division. One of the

speakers will be J. W. Compton of Wyandotte Chemicals Corp., Wyandotte, Mich., on "Corrosion Tests."

"Use of Bactericides in Secondary Oil Recovery Operations" will be the subject of a symposium set by the Disinfectant and Sanitizers Division.

Among presentations announced by the Insecticide Division is one entitled "Insect Repellents," by Carroll N. Smith, U. S. Department of Agriculture, Orlando, Fla.

The Waxes and Floor Finishes Division will hear a paper on "Radio-Isotope Testing for Wear of Polishes" by George J. Fuld, Massachusetts Institute of Technology, Cambridge, Mass., and Melvin Fuld and Harry Broll of Fuld Brothers, Baltimore.

Frederick Lodes, Lodes Aerosol Consultants, Inc., New York, will present the aerosol package awards to winners at a luncheon on Tuesday, Dec. 10. Products entered in the competition will be on display throughout the meeting.

CSMA Luncheon Meeting

An optimistic report on business conditions in Europe generally, west of the Iron Curtain countries, was given by Dr. George W. Fiero of Esso Standard Oil Co., New York, during a general membership luncheon of the Chemical Specialties Manufacturers Association in New York on Sept. 16. The luncheon was held on the first day of a two-day meeting of the Board of Governors of the CSMA at the Hotel Commodore, Sept. 16 and 17.

Harry E. Peterson of Peterson Filling and Packaging Co., Danville, Ill., president of CSMA, presided at the luncheon, which was attended by 135 members of the association. He introduced the first speaker, John Welch of G. M. Basford & Co., New York advertising and public relations firm which is handling the publicity for the Aerosol Division of CSMA. Mr. Welch described the film on aerosols which is being made as part of the publicity program. The five-minute

film, entitled "The Magic Button," is being made for showings on close to 200 television stations in the U.S. In his talk, Mr. Welch recounted the story line of the film, which was shot in the small town of Norberth, a Philadelphia suburb. The film is expected to be ready for distribution some time this month.

Dr. Fiero, who recently returned from a visit to Europe, reported that the economy of England, as a result of heavy income taxes, was suffering by comparison with the Scandinavian countries, as well as Germany and Switzerland. The English people are not as well groomed or as well dressed as those in Sweden and Denmark, he said.

Tristram E. Beplat of Manufacturers Trust Co., New York, discussed economic conditions and developments in the Far East. He urged that it was to the interest of the United States to cooperate with these countries in helping them develop their economic systems.

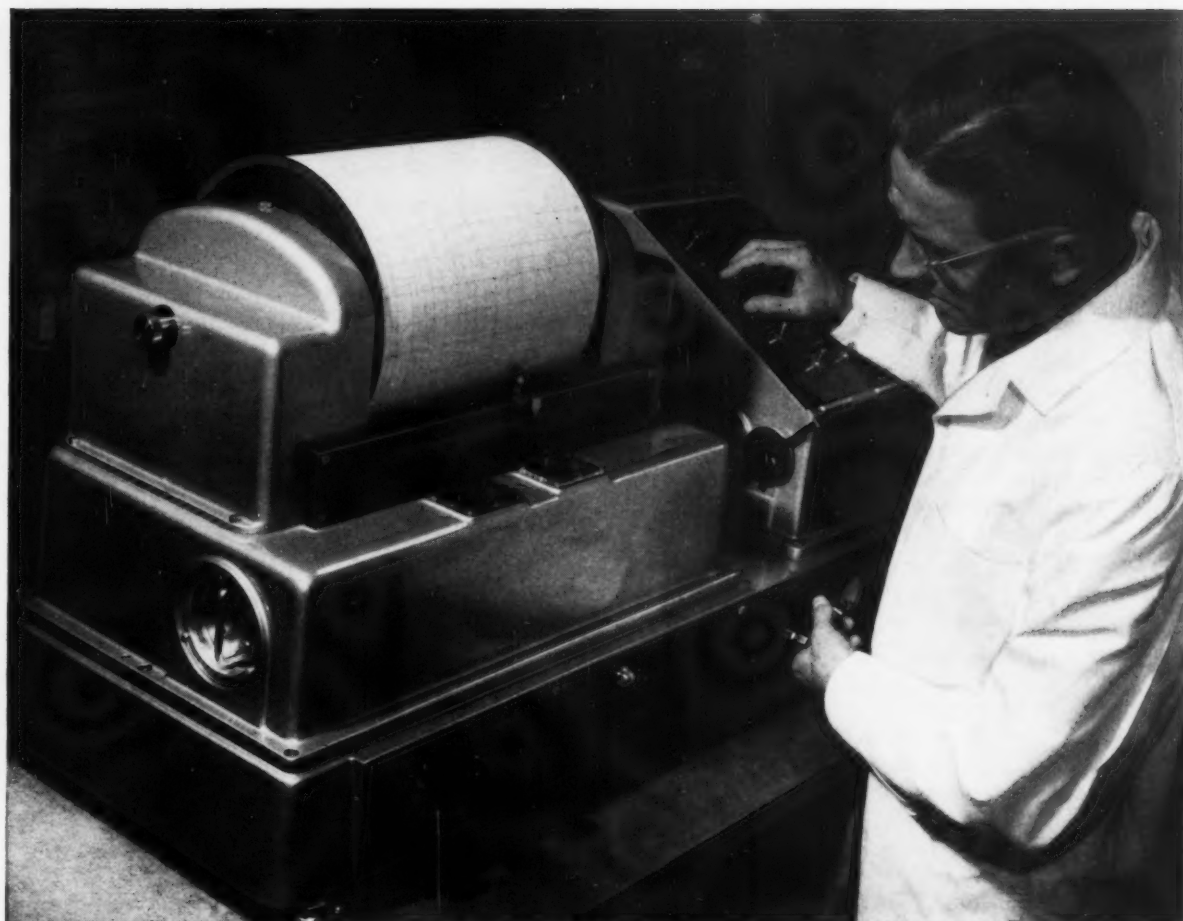
New Beach Distributor

Beach Soap Co., Lawrence, Mass., recently announced the appointment of Chicago Laundry and Cleaners Supply Co., 1310 East 75th St., as sales representative in Chicago, Milwaukee and northern Indiana. The new distributor will handle a complete line of Beach products, including "Phosrite" and "Hycon."

New Westvaco Plant

Plans for construction of a new plant for manufacture of dichlorocyanuric and trichlorocyanuric acids and the sodium salt of dichlorocyanuric acid at Charleston, W. Va., was announced last month by Westvaco Products Division of Food Machinery and Chemical Corp., New York.

Scheduled for completion in July, 1958, the new plant will have an annual capacity of 6,000,000 pounds. These products, which contain a high percentage of chlorine, are utilized in the manufacture of household dry bleaches and scouring powders and commercial laundry bleaches.



To assure customers a product of highest possible quality, Hercules runs exhaustive tests on each batch of meta Delphene, outstanding new insect repellent, now produced at the Brunswick, Georgia, plant.

ANOTHER EXAMPLE OF HERCULES EMPHASIS ON QUALITY

The production of meta Delphene, Hercules Powder Company's diethyl m-toluamide, presented a challenging problem in the isolation of the product in the purity required of a cosmetic chemical. In solving this problem, Hercules drew on its long background in xylene oxidation to produce a material of uniformly high meta isomer content, free from color, odor, or irritating contaminants.

Now, in the first year of consumer use in the

United States and Canada, enthusiastic reports confirm the results of the extensive laboratory and field tests. Meta Delphene provides excellent protection from insect pests, has shown no irritation on either intact or abraded skin.

Hercules anticipates that recent expansion of plant facilities at Brunswick, Georgia will assure an adequate supply of the same high quality meta Delphene for the 1958 season.

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83 per cent minimum meta isomer

Agricultural Chemicals Division, Naval Stores Department
HERCULES POWDER COMPANY
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ACS Detergents Talk (From Page 60)

Chain lengths vary from C_3 to C_{13} for about 90 per cent of the reaction products. Alkali metal and ammonium salts of C_7 and higher acids made from the alcohols are good surface active agents. They have good wetting, dispersing, and emulsifying power while being stable chemically. Surface tension of water can be lowered considerably by alkyl esters of the alcohols, made by reaction with phosphorus oxychloride or phosphorus pentoxide.

A symposium on company histories included "Calspray's First Fifty Years"; "Nopco Chemical Co., for Fifty Years a Variety of Interests"; "American Cyanamid, 1907-1957" and others.

Aerosols Safety (From Page 79)

hazard. Safeguards are at every hand: government regulation through the ICC and the USDA, self-regulation and establishment of safety standards by the . . . trade association (CSMA) . . . (concerned with aerosols) and painstaking care in following all prescribed safe practices in each aerosol manufacturing plant.

The fire record is important in considering the over-all safety record of any industry. For . . . (aerosols) the fire record doesn't exist. There has been no reported incidence. The use of nonflammable . . . (fluorinated hydrocarbon) pressurizing liquids and their counterparts have served to support this excellent record.

Roach Control (From Page 81)

per cent by volume "MGK Roach Concentrate 933" and one per cent "MGK Repellent 11" by weight, we observed four week control. The pyrethrum concentrate gave immediate control of roaches infesting

the treated area.

The "MGK Repellent 11" developed a residual barrier that roaches would not penetrate for periods up to four weeks. In order to obtain residual repellency, this spray must be applied as any residual spray would be, using equipment that emits a coarse spray. Thorough application to the infested areas is absolutely essential to obtain maximum value from the spray. When the repellent was used

with chlorinated hydrocarbons, the result was a scattering of the roaches rather than control. Therefore, we recommend combinations such as "Roach Concentrate 933" and "MGK Repellent 11" for fast, satisfactory control.

We believe the use of repellents in combination with pyrethrins to control roaches is the most challenging and promising of the new concepts in industrial roach control.

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	Aerosol Test Knockdown			Aerosol Test Mortality
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Basic formula* containing 2% DDT	12	28	57	94
Same formula, but with 2% methoxychlor substituted for DDT	22	<u>51</u>	<u>80</u>	85
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Note the great boost that methoxychlor gives to middle and late knockdown. It can do the same for your formula and at very low expense. Contact the district office nearest you.

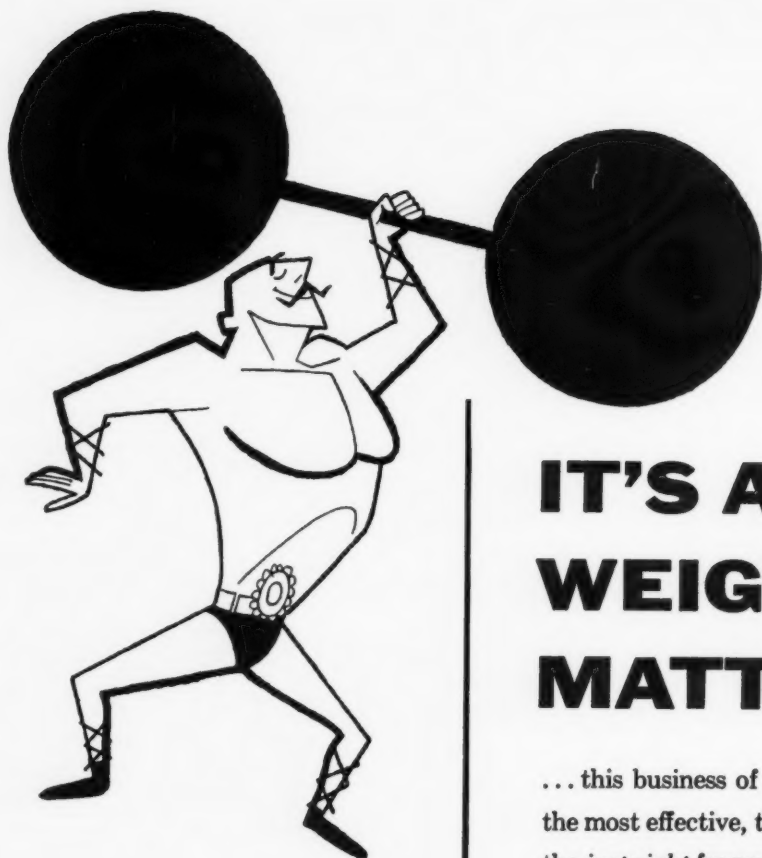
E. I. du Pont de Nemours & Co. (Inc.)
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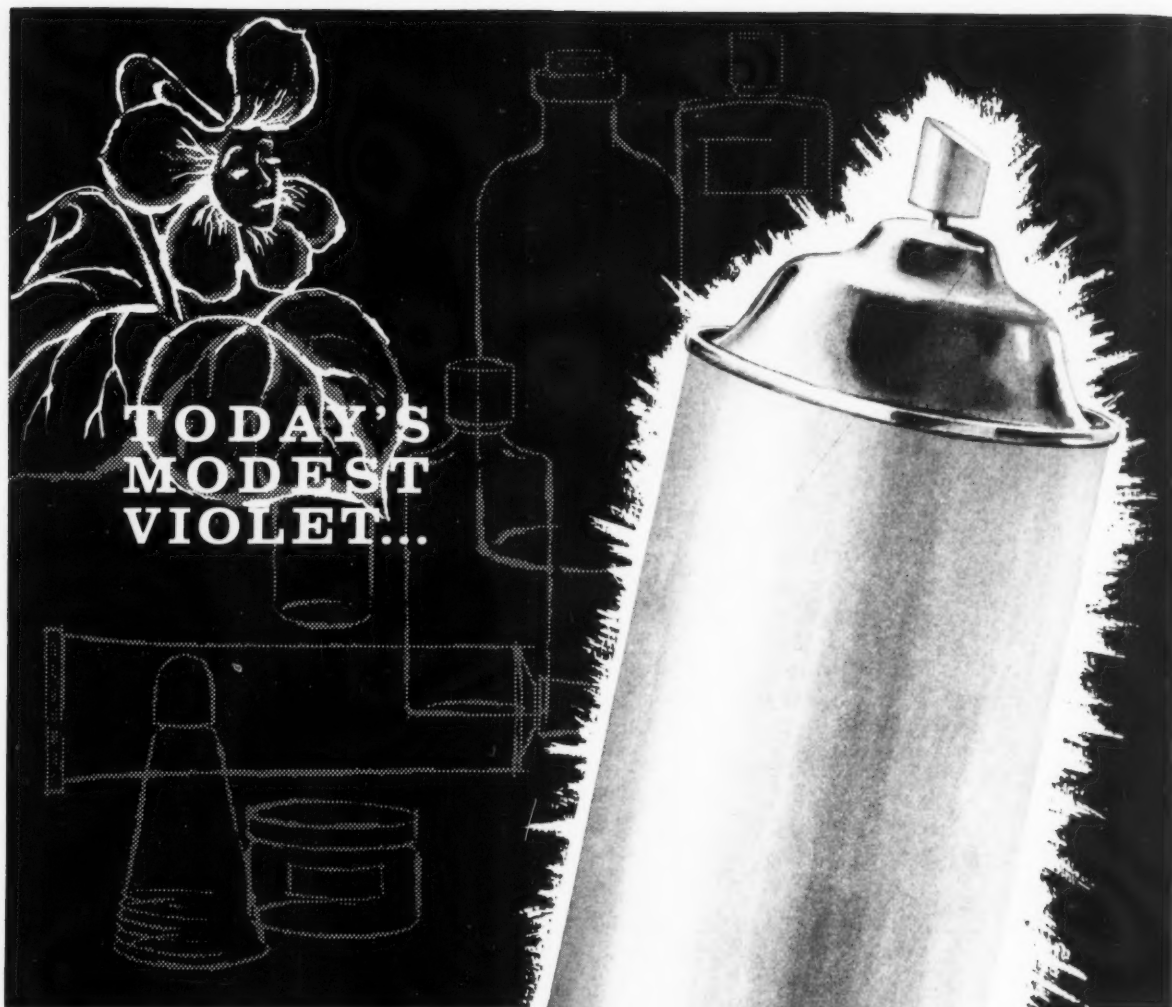
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New liquid silver polish of Stanley Home Products, Inc., Westfield, Mass., is packed in 12-ounce can with polyethylene plastic "no drip" pour spout. This is said to be first use of such a can for silver polish. Cans, supplied by American Can Co., are lithographed in turquoise, black and silver. Polish is made at Stanley's plant in Easthampton, Mass.

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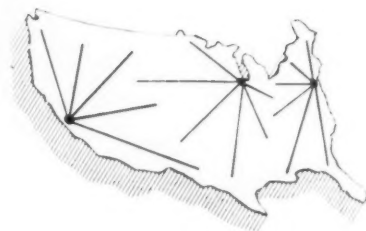
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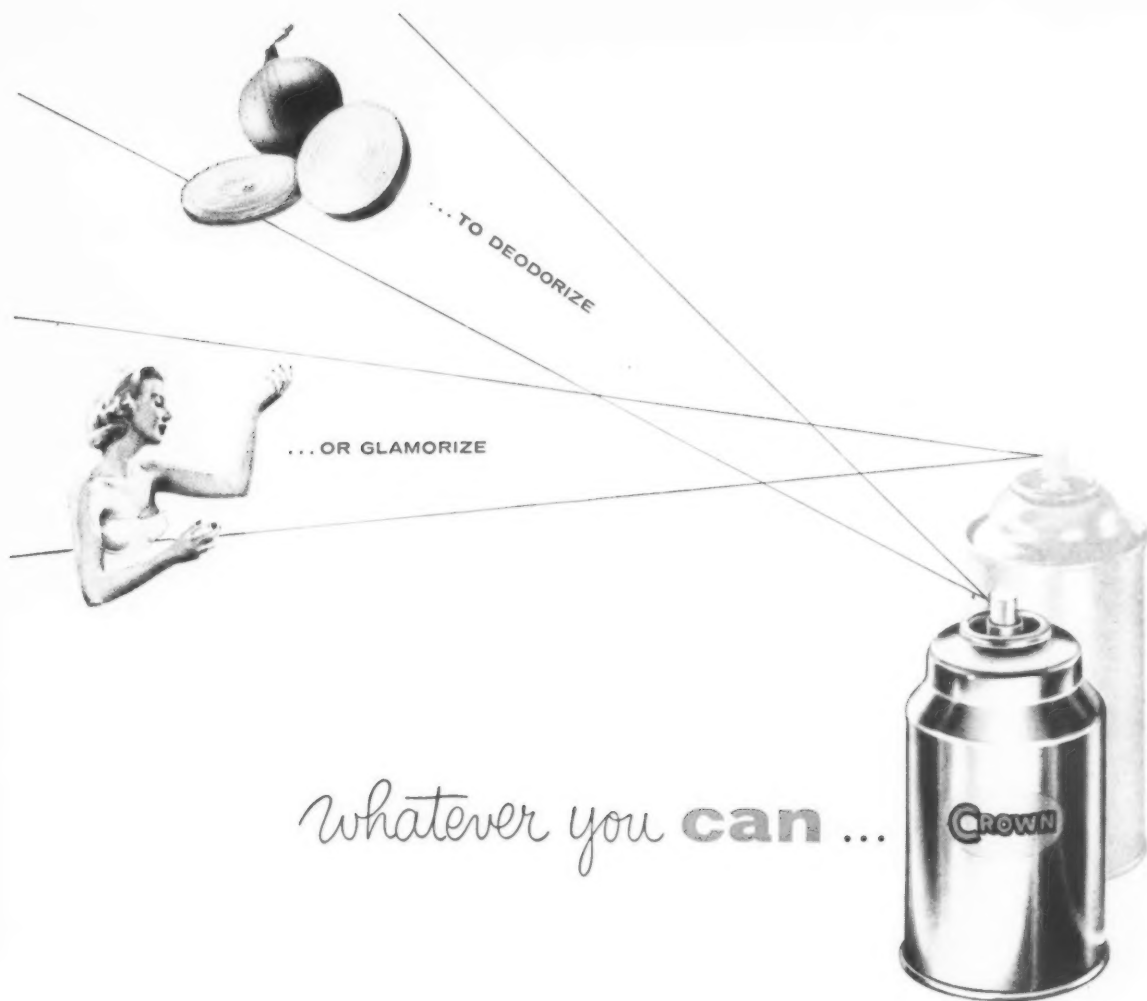
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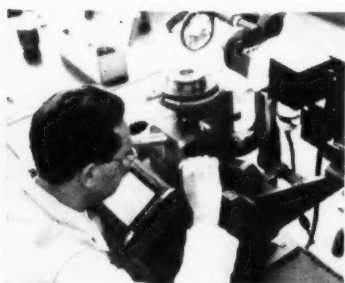
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The full-gallon jug. Ideal for volume items like liquid starch, where users are accustomed to buying for economy in big ½-gallon sizes. Users will appreciate the extra savings they get in the full-gallon jug. And it

means the advantage of more economy to you, too!

New two-finger handle. Gripped with two fingers, instead of one, economy sizes of liquid washday products seem so much lighter, far more convenient to use.

Bright, attractive ACL labels. Natural for premium-priced *washday* products like special cold-water compounds for woolens. Glass labeled with bright, colorful ACL label makes an eyecatching salespackage.

So for washday packaging—make it glass! Remember Owens-Illinois is the marketing-minded supplier of the *complete* salespackage—from over-all design to selection of the right container, closure and fitment.

DURAGLAS CONTAINERS
AN **Ⓢ** PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

November 1st...

Closing date for entries in the 1957 AEROSOL AWARDS package competition is November 1. Awards to be made at the 44th Annual Meeting of the

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION

HOLLYWOOD BEACH HOTEL, HOLLYWOOD, FLA.

DECEMBER 10, 1957

... to include judging and selecting of best aerosol packages of the year

Divided into ten classes as follows:

1. Insecticides, repellents, moth proofers.
2. Room deodorants.
3. Lacquers, enamels, other protective coatings; paint remover.
4. Other household products—polishes, glass cleaner, rug shampoo, water repellent, snow, etc.
5. Shave products.
6. Hair preparations.
7. Other personal products — shampoo, body deodorants, sun tan oil, etc.
8. Medicinal and pharmaceutical products.
9. Industrial products — lubricants, belt dressings, stencil inks, etc.
10. Glass and plastic packages — all products.

... a top award for "best in the show" will also be made

Rules of the contest:

1. All entries must be made in the name of the brand owner or marketer. All products entered must have been freely offered for sale on the open market before September 1, 1957.
2. Entries will close November 1, 1957. All entries should be sent as soon as possible to the Committee at the CSMA office, and should comprise one completely assembled empty container with attached tag showing (a) name and address of brand owner, (b) class in which entry is made.
3. Only one entry may be made by any marketer or brand owner in any one class, but entries may be made in as many classes as desired.
4. Products entered must be properly labeled in accordance with safety requirements and all laws and regulations pertinent to particular products.
5. Entries are open to any aerosol brand owner or marketer anywhere, and are not restricted to members of CSMA. There are no entry fees or other charges to entrants.
6. Best packages will be selected in ten classes and a "best package in the show" will be named. Judging will be done by a group of qualified experts. Their decisions will be final and will be announced and awards made at the 44th annual meeting of CSMA at Hollywood, Fla.

For entry blanks or information, write to
AEROSOL AWARDS COMMITTEE
Chemical Specialties Manufacturers Association
50 East 41st St., New York 17, N. Y.

Make Plans for Your Entries Now!

"J&L phosphatizes *in-the-round*?

... you mean after the shell
is formed and welded?"



"Sure, how else can you properly
phosphatize the *seam*?

J&L gives us a 100% job!"



- J&L specialists, backed up by modern research, are ready to consult on your toughest packaging problems.
- J&L, an integrated steel producer, controls container quality from start to finish.
- J&L steel containers provide engineered packaging for dependable transportation and safe storage.
- Precise fabrication and correct specification of fittings and closures.
- Prompt dependable delivery from nine plants.

Call your nearest J&L Container Division office for recommendations on your packaging problems. Or write direct to the Container Division, 405 Lexington Avenue, New York 17, N. Y.



Jones & Laughlin

... a great name in steel



Craftsmanship

**AN INTEGRAL PART OF THE CONTAINER
WHEN MARYLAND GLASS TAKES
OVER YOUR DESIGN PROBLEM!**

When you drop a packaging problem in our lap, the end result is more than a glass container. It is an *idea* . . . born of restless imagination, shaped by skilled hands, backed by years of sound experience. Our creative staff gives you a selling package that packs well, ships well and pushes your product on the shelf. For a successful solution to your design problem, contact MARYLAND GLASS CORPORATION, 2147-53 Wicomico St., Baltimore 30, Md.



STOCK DESIGNS

—A variety in blue or flint glass and a complete range of sizes is ready for immediate shipment.

PACK TO ATTRACT IN

Maryland Glass

**BLUE OR FLINT
JARS AND BOTTLES**



Packaging NOTES

New Canco Vice-President

Philip C. Sayres has been elected a vice-president of American Can Co., New York, it was



Philip C. Sayres

announced recently by William C. Stolk, president. Mr. Sayres previously was executive vice-president and a director of Bristol-Myers Co., New York. He joined that company as a controller in 1931 and was elected executive vice-president in 1946.

J&L Buys Plant

Jones & Laughlin Steel Corp., Pittsburgh, last month announced acquisition of the Lebanon, Ind., plant of Geuder, Paeshke & Frey Co., of that city. The company, which manufactures galvanized ware, will be known as the Lebanon plant of Jones & Laughlin's container division. Elliot Thomas will continue as plant manager. The sale price was not disclosed. The Lebanon unit employs about 300 persons.

More Foil Labels

Production of square and rectangular foil labels for metal cans, glass bottles and fibre containers was announced last month by Shellmar-Betner Flexible Packaging Division of Continental Can Co., Mount Vernon, O. In addition, die-cutting equipment will be in-

stalled in the near future at the Mount Vernon plant to permit production of labels of other shapes.

The company also announced development of a reverse printed acetate label laminated to paper. This label is designed to absorb heavy surface abrasion and is particularly suited for use on large containers.

Dow-Dobeckmun Merge

Stockholders of Dobeckmun Co., Cleveland, manufacturer of flexible packaging, gift wraps and metallic yarns, have just approved merger of the firm with Dow Chemical Co., Midland, Mich. The proposal was ratified by holders of 93.5 per cent of the 515,893 Dobeckmun common shares outstanding. Directors of both companies previously had approved the merger.

Dobeckmun will continue to operate under its present officers and will be known as Dobeckmun Co., a division of Dow Chemical

Co. Under the merger agreement Dobeckmun shareholders are receiving Dow common stock on the basis of three-quarters of one share of Dow stock for each share of Dobeckmun. Founded in 1927, Dobeckmun operates plants in Cleveland, Berkeley, Calif., Bennington and Wells River, Vt., Amsterdam, Holland and Windsor, England.

Deetz in New Post

R. E. Deetz has been named plant manager of the Jacksonville, Fla., glass container factory of Anchor Hocking Glass Corp., Lancaster, O., it was announced recently. With the company for 26 years, Mr. Deetz formerly was in charge of quality control at the Jacksonville plant. Prior to that, he served as assistant plant manager of Anchor Hocking's Connellsville, Pa., unit.

New du Pont Film

Plans for manufacture of a new heat-sealable film for use in corrosion-resistant tank linings, and specialized container applications, were announced recently by E. I.

Hazel-Atlas Glass Division of Continental Can Co., Wheeling, W. Va., recently developed a new two-finger handle for its one-gallon glass jugs. Suitable for packaging a wide range of liquids, including bleaches and related specialties, the newly-designed handle provides for a firmer grip with less strain on the fingers.



Which of Continental's five "poly" nozzle, non-drip cans is designed for your liquid detergent?

Take a good look at Continental's exclusive line of five Fluid Flow cans—and you'll find a container that's made-to-order for your liquid detergent. Every one of these rugged containers gives you all these big selling features:

EVEN POURING, NO DRIPPING—Threaded polyethylene nozzle permits free flow . . . provides exact, dripless cutoff when pour is completed.

WRAP AROUND LITHOGRAPHY—Solderless construction frees every square inch of outside surface for colorful decoration—even domes and tops.

LASTING BEAUTY—Resistant varnish prevents marring of lithography . . . protects your sales message from the time it leaves your plant until it's in the hands of the consumer.

TOP PRODUCT PROTECTION—Newly-developed enamel linings prevent raw metal from touching your liquid detergent.

Put Continental's full line of Fluid Flow cans to work for you. Call soon.

**CONTINENTAL
CAN COMPANY**

Eastern Division: 100 E. 42nd St., New York 17

Central Division: 135 So. La Salle St., Chicago 3

Pacific Division: Russ Building, San Francisco 4



OF INTEREST TO MAKERS OF LIQUID WAX, STARCH AND OTHER PRODUCTS

After extensive tests at Continental's Research and Development Center, Fluid Flow cans—originally developed for liquid detergents—are now available for a number of other products. Some of these include:

Liquid Wax (water base)	Liquid Soaps	Liquid Starch
Liquid Car Wash	Liquid polish (water base)	
Water Base Cleaners	Liquid Rug and Upholstery Cleaners	

For more information on how Fluid Flow cans can benefit your product, call your nearest Continental representative.

du Pont de Nemours & Co., Wilmington, Del. The new film will be made from "Teflon" 100-X perfluorocarbon resin, a product now in the experimental stage.

Said to possess outstanding electrical insulating characteristics, the film is claimed to be capable of performing at maximum efficiency at temperatures up to 400 degrees Fahrenheit. Construction of a plant for the manufacture of "Teflon" resins is now under way. However, resin production is not expected until 1959.

—★—

New Reynolds Package

A new water-soluble, transparent, polyvinyl alcohol film for packaging soaps, detergents, insecticides, rust inhibitors and related water dispersible products, was developed recently by Reynolds Metals Co., Louisville, Ky.

Called "Reynolon," the new material is said to provide product protection during shipping and storage and also eliminate the necessity of opening the package. Where used for packaging insecticides, and/or other toxic agents, it does away with any direct contact with the product, according to the manufacturer.

The material has contact clarity, permitting product display and is available to meet requirements of any specific application. The new packets may be obtained in individual bags or pouches, pre-measured and wrapped in aluminum foil, or in a composite package consisting of a number of individual packets.

—★—

Nashua Sales Appointments

William H. Foster has been named sales director of Nashua Corp., Nashua, N. H., it was announced recently by James R. Carter, president. Mr. Foster formerly was sales manager of the company's package sealing division. He joined Nashua in 1934 and since that time has served in various sales capacities.

Other company appointments recently announced include: John D. Clark, manager of soap and tex-



New "Reynolon" plastic package, filled with a detergent powder, is tossed, unopened, into a beaker of water. Twenty seconds later, upper right, the package begins to dissolve. Within 45 seconds, lower right, the package has dissolved completely. The new packaging material, a water-soluble polyvinyl alcohol film, is produced by the plastics division of Reynolds Metals Co., Louisville, Ky. It is suitable for packaging soaps, detergents, insecticides and related specialties.

tile sales; Carl E. Doane, manager of converter sales; Walter P. McLaughlin, manager of corrugated box sales; Arthur T. Stevens, manager of set-up box sales; William P. Lyle, manager of the flexible packaging division and Austin W. Sanborn, manager of coating division sales.

—★—

Canco TV Schedule

American Can Co., New York, on Oct. 4 began sponsorship of "Douglas Edwards and the News," on CBS-TV. Programming is scheduled for 7:15 p.m. on alternate Fridays.

According to F. G. Jewett, advertising manager, the commercials will feature products packaged in Canco containers and emphasize the Canco oval trademark.

The first show stressed the role of metal cans in protecting and servicing automobiles by means of making canned anti-freeze and

motor oil easily available.

—★—

New Dow Polyethylene Unit

Plans for construction of a new multi-million dollar linear polyethylene plant at Bay City, Mich., were announced last month by Dow Chemical Co., Midland, Mich. The unit is scheduled for completion in October, 1958.

C. B. Branch, manager of the company's plastics department, said the product has had extensive pilot plant preparation at Dow's Texas Division for the past two years, and that the company plans to make a major effort in the linear polyethylene field. He added, that the new facility will produce powder and granular material in its natural white and other colors.

Linear polyethylene differs from high-pressure polyethylene in its greater resistance to heat, chemicals and vapor transmission, hardness and rigidity.

*glass
containers
move
more
chemical
specialties*



*Use Anchorglass® containers
sealed with Anchor® caps*



... because they are more convenient

CONSUMERS prefer and buy more chemical specialties in glass packages because they are easy, quick and safe to open and easy to use. They reseal easily and protect unused contents which are always visible. They won't rust or corrode. Volatile contents cannot evaporate and dry products are shielded from moisture absorption. The purity, potency and other qualities which characterize your chemical specialties are thus fully protected. Pack and move more of your chemical specialties in glass... in Anchorglass and seal them with dependable Anchor metal or molded closures.

ANCHOR
HOCKING
GLASS CORPORATION
Lancaster, Ohio



To Make Aluminum Cans

A contract for the manufacture of aluminum cans for use in the oil industry was signed late last month by Reynolds Metals Co., Louisville, Ky. and Esso Standard Oil Co., New York. Although aluminum has been used for manufacture of many types of cans in Europe, this marks the first time the metal will be used in the American container industry.

According to B. L. Ray, vice-president and director of Esso, Reynolds will supply 35,000,000 to 60,000,000 quart-sized cylindrical oil cans to Esso service stations. American Can Co., New York, and Crown Cork and Seal Co., Baltimore, will submanufacture the cans for Reynolds from aluminum sheet metal. Production is expected to begin by the end of the year.

Although the cost of aluminum is higher than that of the standard tin-plated steel from which the usual containers are made, Reynolds has made the price of the new container competitive through use of a "gimmick." Service stations will be supplied with a can crushing device that will turn the used aluminum containers into scrap. Reynolds will then buy back the used metal, thereby reducing the cost of the cans to both Esso and the dealers to no more than the conventional type. Reynolds will pay Esso dealers about five cents per pound for the recovered scrap metal.

New Reynolds Research Unit

Plans for construction of a six-million dollar research and office building at Richmond, Va., was announced recently by Reynolds Metals Co., Louisville, Ky. The building will be erected adjacent to a ten million dollar structure, now nearing completion, which will house Reynolds' executive offices.

The new research unit will serve as headquarters of the firm's aluminum sales division, which will be transferred from Louisville. It will also include the packaging and metallurgical laboratories and



A 200 pound test corrugated home laundry detergent package for Procter & Gamble's "Dash" and "Tide" heavy duty-detergents won honorable mention for carry home packs at Fourth Annual Fibre Box Competition, sponsored by the Fibre Box Association in Washington, D. C. Packages are by Ohio Boxboard Co., Rittman, O.

other company research facilities.

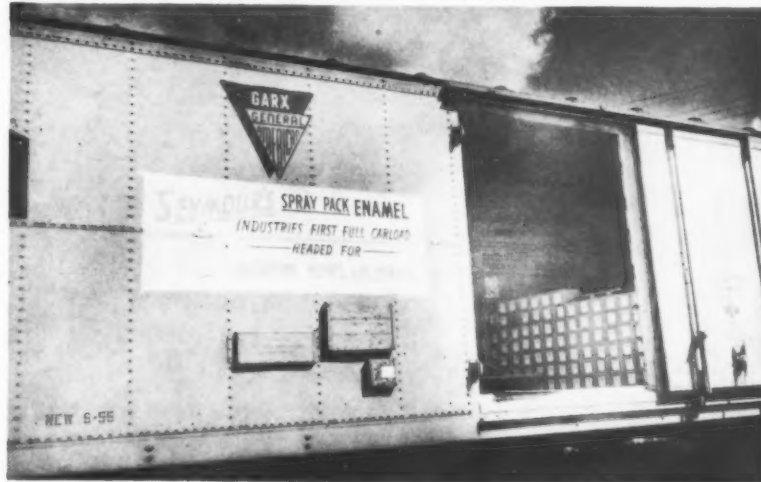
About 750 people will be affected by the transfer of the sales headquarters to Richmond. The move will be made gradually and is expected to be completed by 1959.

Aerosols in Britain

Sales of pressure packaged household products in Britain are expected to exceed 12 million units in 1957. Eight million units were sold in 1956. Figures for preceding years run as follows: 6,000,000 in

1955; 2,500,000 in 1954; 2,000,000 in 1953; 1,500,000 in 1952; 1,250,000 in 1951; and 500,000 units in 1950. This information is presented in an article on pressurized household products by A. Herzka, Metal Box Co., London, which appeared in the August issue of *Soap, Perfumery & Cosmetics*. The article covers the mechanics of pressure dispensing propellants, dispensers, and the range of household products currently marketed in pressure packages. Formulations are included.

Largest individual order ever placed for aerosol spray paint was shipped recently by Seymour of Sycamore, Sycamore, Ill. Car contains over 45,000 cans of Seymour "Spray-Pack" enamel for Budrow Hardware, Los Angeles distributor for Seymour.



Bracon

... SQUEEZE-TO-USE PACKAGING



*Delightfully
different . . .*

To merchandisers of deodorants the package has become as important as the contents . . . a vital factor for future sales.

To expand its position in the market, Lehn & Fink Products Corporation asked us to develop an entirely new container . . . one that contained a roll-on application with the pliability of polyethylene. Here's the result: BRACON squeeze bottles for both "ETIQUET" and "TusSY" deodorants.

These packages have been an *overnight success*! Consumers like their lightness, non-breakability . . . controlled dispensing. Add low cost and appealing printing and you top off an exceptional packaging venture.

Investigate what functional packaging can do for your product. Get full details on BRACON squeeze-to-use tubes, bottles and cans from your Bradley representative . . . located in most major cities.

BRADLEY CONTAINER CORPORATION

A SUBSIDIARY OF AMERICAN CAN COMPANY

Maynard, Mass. — New York, Chicago, Los Angeles, Toronto

New Canco Division

The research and technical department of American Can Co., New York, has established an aluminum division to find low cost methods of fabricating aluminum alloy into commercial containers. According to William C. Stolk, president, the company's research department has been working on development of aluminum containers for several years and has perfected the techniques for producing both aluminum alloy and aluminum-coated steelplate cans on a pilot line basis.

However, Mr. Stolk said, there are no low-cost commercial methods available for making aluminum cans at high speeds. He pointed out that tin cans are produced at the rate of 30,000 per hour by individual production lines.

Joseph D. Martin, executive vice-president of Sun Tube Co., Hillside, N. J., a Canco subsidiary, will serve as manager of the new aluminum division, which will be located at Basking Ridge, N. J.

—★—

Flaschberger in New Post

Appointment of Larry J. Flaschberger as assistant sales manager of Geuder, Paeschke & Frey Co., was announced recently by Robert C. Colyer, vice-president of sales. Mr. Flaschberger joined the company in 1946 and became a steel package representative in 1949. In the latter post, he handled the company's lines of steel pails, drums and utility containers.

Larry J. Flaschberger





always room for one more...

...and then some!

50,000 square feet, as a matter of fact, in which to meet your liquid or aerosol filling requirements. Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When shipments are to be made, our personnel and equipment

are ready to move large or small orders in a hurry... and of course, we're always glad to handle drop shipping. Direct railroad sidings and truck service at our door permits our plant to serve as your warehouse... a central distributing point... saving you time... and money.



For details about our complete services in contract filling (liquid or aerosol), write, 'phone or wire...

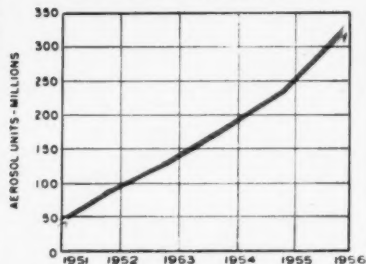
PETERSON
Filling and Packaging Co.
 HEGELER LANE • DANVILLE, ILLINOIS



AEROSOL



**Look at the way aerosol sales
have been skyrocketing:**



**Interested?
Call GENERAL today!**

Source: CSMA

PACKAGING

can start sales skyrocketing for you!

If you've had your eye on aerosols, you've seen sales skyrocket from 40 million units in 1951 to 320 million units in 1956 . . . taking a dominant position in sales of hair lacquers, insecticides, shaving lathers, room deodorants and many other products.

Here's how *you* can get into this dynamic, high-profit field *practically* overnight—and without heavy capital investment!

If your product can be sprayed, brushed on, dusted or daubed, it's a likely candidate for aerosol packaging. General Chemical will help you develop a formulation with the right pressures and compatibilities for your product and container. *No cost or obligation!* And there are many capable contract fillers throughout the country who will put up your product in aerosol form for test marketing, and handle full commercial production, too. You do not have to invest in plant, special equipment or personnel to get into aerosols!

To arrange for a special presentation, write or call "Genetron" Department, General Chemical Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, N. Y.

genetron[®]
aerosol propellants



*The Right
Propellant
for Every
Aerosol Need!*

Call on General for:



Free fact-packed technical manuals, market information



A complete aerosol research and development laboratory



Data on many promising new types of aerosols



Field assistance with propellant storage, handling

GENERAL CHEMICAL DIVISION • Allied Chemical & Dye Corporation

40 Rector Street, N. Y. 6, N. Y.

Polyethylene Packaging Future Bright

POLYETHYLENE container markets will continue to grow at a spectacular rate, according to F. L. Pyle of Spencer Chemical Co., Kansas City, Mo., who spoke on "Polyethylene Container Market, From Squeeze Bottle to Shipping Drum" at a symposium on marketing of polyolefins at the recent national meeting of the American Chemical Society held in New York City.

An estimated 15,000,000 pounds of polyethylene was used in 1956 to make 300,000,000 squeeze bottles only (excluding tubes and cans) in which some 3,000 to 4,000 different products went to market. F. L. Pyle of Spencer Chemical Co., Kansas City, Mo., estimated that 50 per cent of the squeeze bottles hold cosmetics and personal products, 35 per cent household and

industrial products, and 15 per cent pharmaceuticals.

While bottle applications are expected to grow further, Mr. Pyle sees the greatest future growth in flexible tubes and cans. He estimates that bottles, tubes and cans combined will consume 45,000,000 pounds of polyethylene by 1960. The high density type resins may gain a major portion of the tube and can market owing to their good permeability characteristics. However, because of their greater rigidity it is doubtful that they will make great inroads in squeeze bottle manufacturing.

Industrial shipping containers constructed of polyolefin resins, including carboys, drums, and formed liners, offer one of the greatest potentials for future growth in the polyethylene container market, Mr. Pyle declared. Continuing rounds of price increases for tin plate and steel plate may give additional impetus to the growth of the plastic container market. New processes and techniques for the manufacture and use of higher density polyethylenes have provided a wider range of properties and growth potentialities.

Flexible packaging, including films and coated products but excluding containers, consumes approximately 50 per cent of all polyethylene produced in the United States. This estimate includes conventional and higher density type polyethylenes used for these packaging materials. B. M. Miller and J. G. Pick of Koppers Co. reported a 300 fold increase in polyethylene consumption since 1943 when it was first made commercially in the United States. Current consumption is placed at 200,000,000 pounds with 250,000,000 seen for 1960. From 1952 to 1955 polyethylene film consumption increased at an average annual rate of 62 per cent. Polyethylene may become the first billion pound per year plastic. Improved tensile strengths and higher service temperatures are among the factors which have caused recent phenomenal expansion.

New! PLASTIC SIFTER TOP CANS by CIN-MADE with 3 different style openings



1—Three 5/16" diameter holes. 2—One pour spout.
3—Nine 3/32" sifter holes.

- Easy to fill through 1 1/2" hole. • No machinery needed.
- Will not leak in shipment.
- Easy to open and close with absolute lack of leakage.
- Available in any combination of colors with or without glassine liners and outer labels.

Write for Samples and Information

THE CIN-MADE CORPORATION

800 EAST ROSS AVENUE • CINCINNATI 17, OHIO



IMPACT! adds sales punch!



IMPULSE! sparks point-of-purchase buying!



IMPROVEMENT!
brings you the newest in glass!



The Three Hazel-Atlas "Imps" Say —



"products that make things gleam - and keep them shipshape and clean
...sell better in H-A glass packages!"

Whether your product burnishes and nourishes wood or metal, cuts wash-day grime, or makes clothes, cars, or kitchens cleaner and brighter, it will get more sales *impact* and produce more *impulse* sales in beautiful H-A packages. Rigid quality controls keep H-A containers uniform in size, shape, clarity and color. They perform efficiently on the filling line, and display your product at its best. No matter when or where you need it fast, H-A's nationwide "glass network" assures you of instant service — call your H-A representative or write Wheeling today.



...glamour in glass!

HAZEL-ATLAS GLASS

Division of CONTINENTAL  CAN COMPANY
WHEELING, WEST VIRGINIA

This Gun is Loaded!...

... WITH DESIGN
FEATURES THAT
MEAN MAXIMUM
CUSTOMER
SATISFACTION

R.C.'s
new
anti-clog
SPRAY GUN



● **ANY-DIRECTION VENT**—even sprays upward, for under side of foliage. Preformed in just the right size; no danger of user punching hole too large or too small for proper use.

◆ **CLOG-PROOF FEED**—Scientifically perforated underside of plug permits powder to pass through... prevents lumps from clogging discharge vent.

■ **EASY-FILL TOP**—Large 1 7/8" friction plug.

* **WAX-COATED INNER TUBE**—Special wax gives moisture protection and smoother pumping action.

○ **SPECIAL FELT INNER VALVE**—Allows easy passage of air during pumping action, yet effectively seals in powder.

▲ **PATENTED BELLOWS VALVE**—Positive operation—opens on back stroke to admit air into pumping chamber; closes on forward stroke, for efficient pumping action.

..and for added ammunition..these COMPANION PACKAGES by R.C.

For refill, or for related use, R. C. Cans offer many extra features: paraffin coating, special moisture proof laminations, and a wide variety of tops (with or without indentations for sifting).



R.C. CAN COMPANY

MAIN OFFICE and Factory 9430 Page Blvd., St. Louis 14, Mo.

Branch Factories: Arlington, Tex.; Rittman, O.; Turner, Kans.

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What's New?

"Seaforth Spiced Minute Shave," manufactured by Seaforth Division of Prince Matchabelli, Inc., New York, is now being marketed in a new six-ounce aerosol container by American Can Co., New York. The new lithographed can, which represents a new size in aerosol packaging for Seaforth's line of men's toiletries, will be sold nationally in both drug and department stores. The shaving cream also will be offered with after-shave lotion in a new two-unit package. Valves for the new product are supplied by Clayton Manufacturing Corp., East St. Louis, Mo. The cans are filled by Products Manufacturing Corp., Little Falls, N. J.



Anchor Chemical Corp., Brooklyn, N. Y. recently adopted a new non-drip, one-gallon container for its lines of detergents, solvents and washes. The new package features an all-around lithographed label in red, blue and cream. The first products to be packaged in the new can are "Ronolene" cleaner, "Anchor Type Wash" and "Wash R-228," for use on printing rollers, rubber press plates and dies.

A new four and three-quarter ounce polyethylene squeeze container, recently adopted by Maid-Easy Cleansing Products Corp., Mount Vernon, N. Y., for packaging its "Maid-Easy" metal polish, is manufactured by Bradley Container Corp., Maynard, Mass., a subsidiary of American Can Co., New York. Called "Bracon," the new tube features red and black printing on a white background and retails for 69 cents.





Armour and Co., Chicago, recently introduced its "Dial" toilet bar in four new pastel colors. In addition to a new golden color, "Dial" will now appear in pink, blue and green with matching wrappers. The new toilet bar contains "Super AT-7," an ingredient which is said to remove bacteria without drying or greasing the skin. National introduction will be backed by heavy newspaper, magazine and television advertising. The product, which will be marketed through drug, department and grocery stores, retails at two bars for 27 cents.



"Air-Wick" room deodorant in aerosol form is now available in a "floral" fragrance, it was announced recently by Seeman Brothers, Inc., New York, retail distributors of the product in the United States. Manufactured by Airkem, Inc., New York, "Air-Wick" also is available in natural scent in an aerosol package. This product formerly was designated "Air-Wick mist." Retailing for 89 cents, "Air-Wick" sprays come in six-ounce container by Continental Can Co., New York. Product is loaded in east by Powr-Pak, Inc., Bridgeport, Conn., and in west by Par Industries, Inc., Los Angeles. Aerosol valves are by Precision.



Viking Manufacturing Co., Natick, Mass., has adopted a new reusable one-pint plastic container for its waterless hand cleaner. The new package features a snap-on cap. Also available in six and 16-ounce glass jars, gallon cans and in bulk, the product contains lanolin and hexachlorophene.





A new Christmas Tree snow, packaged in a 16-ounce aerosol container, was introduced recently by Plasti-Kote, Inc., Cleveland. Said to be non-inflammable, the product does not stain and can be removed with a damp cloth, vacuum or brush. Retail price is \$1.49.



"Krylon Anti-Dust," marketed nationally by Krylon, Inc., Norristown, Pa., is designed to clean and collect dirt and dust particles and hold them in suspension until shaken from mop or cloth. Packaged in 16-ounce aerosol container, product retails for \$1.79. It is said to be suitable for use on furniture and surfaces of rubber, linoleum, wood, terrazzo and asphalt tile. "Krylon Anti-Dust" will be featured in food, hardware, department and variety stores.

Park & Tilford, New York, has adopted a new four and one-half ounce nylon plastic aerosol container by Imco Container Corp., Kansas City, Mo., for its "Stay Put" hair spray. Said to be first nylon aerosol container, it is cream color, translucent. Made with "Zytel 42" nylon of du Pont. Filling is by Connecticut Chemical Research Corp., Bridgeport, Conn. Valve assembly by Precision Valve Corp., Yonkers, N. Y. and styrene caps by Wheaton Plastics Co., Mays Landing, N. J. Spray is also available in six and one-half metal ounce aerosol can for \$1.50.



Majestic Wax Co., Denver, is marketing its "Velva-Sheen" mop treatment in a new eight-ounce polyethylene squeeze bottle. Product, which will be sold through janitor and sanitary supply jobbers, is also available in 12 and 32-ounce aerosol containers, one-gallon cans and five, 15, 30 and 55-gallon drums.



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NEW Trade Marks

THE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

Onyx—This for surface active agent. Filed Nov. 16, 1956 by Onyx Oil & Chemical Co., Jersey City, N. J. Claims use since about November 12, 1935.

Conoco—This for weed killer. Filed Dec. 10, 1956 by Continental Oil Co., Ponca City, Okla. Claims use since Dec. 30, 1955.

Cloroben—This for industrial deodorant. Filed Feb. 25, 1957 by Cloroben Corp., Clifton, N. J. Claims use since Aug. 21, 1934.

Lady Lavender—This for room deodorant. Filed Mar. 20, 1957 by Robinco, Inc., Norristown, Pa. Claims use since Dec. 12, 1956.

Diothane—This for protective coating for concrete surfaces. Filed Mar. 18, 1957 by Permagile Corp. of America, Long Island City, N. Y. Claims use since November, 1956.

Brushon—This for paint stripper. Filed Mar. 20, 1957 by National Chemical & Manufacturing Co., Chicago. Claims use since October, 1926.

10 Day Beauty Set—This for shampoo. Filed Sept. 14, 1956 by Bymart-Tintair, Inc., New York. Claims use since Sept. 10, 1956.

Refrax—This for floor wax. Filed Apr. 8, 1957 by Standard Coffee Co., New Orleans, doing business as Reilly Chemical Co., New Orleans. Claims use since October, 1956.

Bag Beauty—This for spray for protecting and restoring finish of handbags. Filed Dec. 6, 1955 by Knomark Manufacturing Co., Springfield Gardens, N. Y. Claims use since August, 1955.

Moth Snow—This for moth proofer. Filed June 21, 1956 by National Associates, New Bedford, Mass. Claims use since May 5, 1956.

General—This for fire extinguisher. Filed Oct. 18, 1956 by General Detroit Corp., Detroit. Claims use since 1918.

Dish Tabs—This for household detergent. Filed June 13, 1956 by Andrew Jergens Co., Cincinnati. Claims use since Apr. 19, 1956.

Wash Tabs—This for household detergent. Filed June 29, 1956 by Andrew Jergens Co., Cincinnati. Claims use since Apr. 19, 1956.

Continental—This for synthetic detergents. Filed Dec. 10, 1956 by Continental Oil Co., Ponca City, Okla. Claims use since Nov. 27, 1956.

Saturday Night—This for shampoo. Filed Dec. 10, 1956 by Proc-

ter & Gamble Co., Cincinnati. Claims use since Oct. 18, 1956.

Boiler-Aid—This for rust inhibitor for boilers. Filed Dec. 17, 1956 by Saginaw Salt Products Co., Saginaw, Mich., to Edwin E. Schaefer, Saginaw, Mich. Claims use since Mar. 12, 1953.

Hypoxy—This for floor waxes. Filed Feb. 25, 1957 by Hysan Products Co., Chicago. Claims use since Jan. 15, 1957.

Lano Wax—This for liquid shoe polish. Filed Mar. 25, 1957 by Knomark Mfg. Co., Springfield Gardens, L. I. Claims use since Jan. 2, 1957.

Super-Coate—This for petroleum wax. Filed Mar. 18, 1955 by Continental Oil Co., Ponca City, Okla. Claims use since Dec. 6, 1954.

Microloid—This for corrosion resisting coating for institutional and industrial equipment. Filed Apr. 3, 1957 by Michigan Chrome & Chemical Co., Detroit. Claims use since Oct. 18, 1948.

DCM—This for powdered dish-washing compound for use in dish-washing machines. Filed Sept. 27, 1956 by Oakite Products Inc., New York. Claims use since about May, 1955.

Johnny on the Spot—This for liquid cleanser for fabrics. Filed Oct. 8, 1956 by Scovill Manufacturing Co., Waterbury, Conn. Claims use since about July 25, 1955.

Hollywood—This for shoe cleaners. Filed Nov. 20, 1956 by Hollywood Shoe Polish, Inc., Richmond Hill, N. Y. Claims use since Aug. 1, 1925.

Admire—This for cold water cleaner for woollens and fine fabrics. Filed Nov. 21, 1956 by J. C. Garet, Inc., Hollywood, Calif. Claims use since Apr. 20, 1955.

Lydet—This for liquid detergent. Filed Feb. 7, 1957 by Beach Soap Co., Lawrence, Mass. Claims use since June 30, 1955.

Minisudz—This for detergent. Filed Feb. 7, 1957 by Beach Soap Co., Lawrence, Mass. Claims use since Dec. 31, 1956.

Shurspray—This for detergent. Filed Feb. 25, 1957 by Diversey Corp., Chicago. Claims use since Jan. 11, 1956.

All's Fair—This for shampoo. Filed Mar. 12, 1957 by Chesebrough-Ponds, Inc., New York. Claims use since Jan. 15, 1957.

It's A Secret—This for shampoo. Filed Mar. 12, 1957 by Chesebrough-Ponds, Inc., New York. Claims use since Jan. 15, 1957.

Minute For Beauty—This for shampoo. Filed Mar. 12, 1957 by Chesebrough-Ponds, Inc., New York. Claims use since Jan. 15, 1957.

Lovely Secret—This for shampoo. Filed Mar. 12, 1957 by Chesebrough-Ponds, Inc., New York. Claims use since Jan. 15, 1957.

Silichrome—This for polish for automobiles and chrome surfaces. Filed Aug. 31, 1956 by Aqua Shine Corp., doing business as American Silicone Co., Denver. Claims use since about July 30, 1956.

Once—This for automobile polish. Filed Dec. 17, 1956 by Aqua Shine

Corp., doing business as American Silicone Co., Englewood, Colo. Claims use since Aug. 10, 1956.

3 C's—This for metal cleaner and polish. Filed Mar. 27, 1957 by Damon Chemical Co., Alliance, O. Claims use since Jan. 14, 1953.

Studebaker-Packard—This for anti-freeze and rust inhibitor. Filed July 2, 1956 by Studebaker Packard Corp., Detroit. Claims use since May, 1955.

Topline—This for rust inhibitor. Filed July 18, 1956 by Willard A. Fleenor, doing business as Fleenor Auto Parts and Accessories and as Topline Products Co., Alexandria, Ind. Claims use since February, 1955.

One-Shot—This for insecticide. Filed Oct. 25, 1956 by Cotton Producers Association, Inc., Atlanta. Claims use since Mar. 6, 1952.

Warf—This for rodenticide. Filed Jan. 14, 1957 by Diamond Black Leaf Co., Cleveland. Claims use since Sept. 17, 1956.

MGK—This for insecticides. Filed Jan. 24, 1957 by McLaughlin Gormley King Co., Minneapolis. Claims use since about Feb. 24, 1920.

Poly-Tergent—This for surfactants. Filed Mar. 28, 1957 by Olin Mathieson Chemical Corp., Baltimore. Claims use since Mar. 6, 1957.

Cairx—This for baby soap and baby shampoo. Filed Sept. 12, 1956 by Shulton, Inc., Clifton, N. J. Claims use since Feb. 29, 1956 on baby soap.

Beauty Set—This for shampoo. Filed Sept. 14, 1956 by Bymart-Tintair, Inc., New York. Claims use since Aug. 30, 1956.

Continental—This for synthetic detergents for use in manufacture of industrial and household detergents. Filed Dec. 10, 1956 by Continental Oil Co., Ponca City, Okla. Claims use since Nov. 27, 1956.

Brite-ize—This for lens cleaner. Filed Dec. 24, 1956 by Barnett Copeland, doing business as Briteize Co., Chicago. Claims use since spring of 1933.

Atlas—This for pre-wax cleaner. Filed Jan. 9, 1957 by Atlas Supply Co., Newark, N. J. Claims use since Dec. 10, 1956.

Sing—This for soap. Filed Jan. 25, 1957 by Purex Corp., Ltd., South Gate, Calif. Claims use since Jan. 3, 1957.

Gayla—This for toilet soap. Filed Jan. 30, 1957 by Lever Brothers Co., New York. Claims use since Jan. 25, 1957.

Pennsan—This for disinfectant and cleaning composition. Filed Feb. 11, 1957 by Pennsalt Chemicals Corp., Philadelphia. Claims use since Nov. 6, 1956.

Citrospeed—This for cleaner for citrus processing equipment. Filed Feb. 13, 1957 by Diamond Alkali Co., Cleveland. Claims use since Oct. 4, 1956.

Parashine—This for liquid cleaner for floors, walls and furniture. Filed Mar. 4, 1957 by Parawax Co., Council Bluffs, Ia. Claims use since about July 1, 1931.

Sana-Rama—This for detergent type sanitizing solution. Filed Mar. 6, 1957 by Gattone Lab, Inc., Morton, Pa. Claims use since Oct. 22, 1956.

Liqui-Det—This for industrial and household detergent. Filed Mar. 6, 1957 by Oakite Products Co., New York. Claims use since Sept. 28, 1956.

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PRESSURE PACKAGING

WHAT the head of one of the leading aerosol valve manufacturers termed the "most significant development in seven or eight years" was the revelation last month that nitrogen can be and is being used as an aerosol propellant. H. R. Shepherd, president of Aerosol Techniques, Inc., Bridgeport, Conn., contract loader, announced late in September that his firm will begin filling nitrogen propelled aerosols in the fall.

The advent of nitrogen as a new propellant is important because it adds to the range of pressure packaged products a number of items which had hitherto been regarded as unsuitable, because of their viscosity characteristics. Toothpaste, cleansing cream and hair dressing are listed by the ATI release as potential candidates for pressure packaging. A line of food condiments and syrups is now being tested.

One of, if not the first nitrogen propelled aerosol product, and a food item at that, is "Chocolate Floz" by Sifers Chocolate Syrup Co., Iola, Kans. Twelve ounces of product are packed in a 16 ounce American can, lithographed in three colors: blue, pink, and—appropriately—chocolate brown. The valve is supplied by Clayton Corp., St. Louis. Sifers is believed to be doing its own filling. Dispensing directions call for removing plastic cap, turning can completely upside down, holding nozzle close to food and then pressing gently on valve. Product rolls out gently and slowly.

Nitrogen is a free gas, chemically inert, and not readily miscible. Equipment used to fill liquid propellants, such as the fluorinated hydrocarbons, is unsuitable for the loading of nitrogen propelled units.

Whereas liquids are filled volumetrically, a free gas is filled by maximum manifold pressure up

to the predetermined safety level of the container. From 3/10ths of a gram to one gram of nitrogen gas per package may be used. The range of containers is limited by the fact that it must withstand 90 psig at 70°F. Glass and certain other materials would seem to be ruled out, although 2P style cans of 17.6 ounce capacity or less would appear to be safe and within ICC regulations. In the nitrogen propelled package pressure drops as gas is used, whereas pressure remains the same throughout the life of a liquid gas propelled unit.

Nitrogen's inertness eliminates or minimizes a number of

pressure packaging problems, such as container corrosion, evaporation transfer, or propellant breakup. The product is not aerated as is the case with nitrous oxide carbon dioxide propelled whipped cream aerosols.

Precision Valve Corp., Yonkers, N. Y., is credited by members of the trade with the development of a new valve which was a major factor in the successful application of nitrogen in pressure packaging of viscous materials. To overcome the problems caused by cavitation at the bottom of the siphon tube a special anti-cavitation device has been built into these new valves.

Incidentally, loaders familiar with the nitrogen development are careful to emphasize that it will not take the place of halogenated propellants.

As a result of the advent of
(Turn to Page 203)

A chocolate syrup in a pressure package using nitrogen as the propellant has been developed by Sifers Chocolate Syrup Co., Iola, Kans. Use of nitrogen as propellant is seen opening new markets for viscous materials such as creams, pastes, etc.



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Herter Named Krylon Rep.

Edward J. Herter, Jr., has been appointed a manufacturer's representative for Krylon, Inc., Norristown, Pa., aerosol marketers and contract fillers, it was announced last month by Richard C. Newbold, vice-president of sales. Mr. Herter will handle Krylon's line of aerosol products in western Pennsylvania, northwest Maryland and West Virginia. Previously, he had been a Krylon sales representative.

—★—

FTC Cites Bostwick

A hearing was scheduled to be held Oct. 8 in Bridgeport, Conn., in a complaint issued by the Federal Trade Commission against Bostwick Laboratories, Bridgeport, for alleged false advertising claims on behalf of "Hep Safe-T-Spray Oven Cleaner". The product is an aerosol dispensed cleaner. The company, according to the F.T.C. complaint, in its advertising claims that the product can be sprayed on and, after a 10-minute wait, the oven is wiped clean with a damp cloth.

The F.T.C. complaint alleges that oven will not ordinarily be cleaned by applying the spray and then wiping off the surface with a damp cloth or sponge. Hard scrubbing with steel wool or some other abrasive will frequently be required to clean an oven when using this product, the complaint continues. Such claims deceive the public and violate the F.T.C. act, the commission says.

Named in the complaint are A. O. Samuels and Jack Schenberg as officers of Bostwick.

—★—

Mojonnier Adds Two

David Maurer and Thomas J. Rink have joined Mojonnier Associates, Inc., Franklin Park, Ill., as sales representatives, it was announced last month. The company manufactures aerosol and other filling equipment. Mr. Maurer, who will serve as eastern representative, will work out of the New York office. He succeeds Edward Zellar, who recently resigned to



David Maurer



Thomas J. Rink

join E. I. du Pont de Nemours & Co., Wilmington, Del. Mr. Rink will cover the middle west. He is making his headquarters at the company's main office in Franklin Park.

New Aerosol Filler

A new, small scale, cold filler, capable of loading approximately 1,000 six-ounce aerosol cans per eight hour day, is now avail-

Overall view of new, small scale cold filler for loading aerosol packages announced recently by Builders Sheet Metal Works, Inc., New York. Top view is of cold box, laboratory scale and crimper mounted on formica top cabinet which houses two propellant tanks. Lower view is of cold box, and showing coils and loading hose in can.



able from Builders Sheet Metal Works, Inc., New York. The complete assembly includes an air crimper, cold box, and laboratory scale all mounted on a cabinet having a formica top, 30 x 48 inches. The air compressor is housed in the base of the cabinet, beneath two propellant storage tanks. The refrigeration unit, of water cooled, open type, is completely automatic. The low side pressure control starts and stops the compressor automatically so as to maintain a cold box temperature of -40°F. and a cold coil temperature of -50°F. This provides for adequate subcooling of all propellants including "F-12".

Two different propellants can be loaded with the new unit, and 20 cans and product may be precooled in the cold box.

—★—

Esko Chemical Now Loading

Custom aerosol loading operations of Esko Chemical Co., 352 Livonia Ave., Brooklyn, got under way early last month, it was announced recently by S. Y. Kirschenbaum, president. A completely automatic filling line, designed by the company and built according to its specifications, is equipped to



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<i>Anti-Static Sprays</i>	<i>Hormones</i>
<i>Fungicides</i>	<i>Ammonical Liniments</i>
<i>Growth Regulators</i>	<i>Polishing Waxes</i>
<i>Rust Preventatives</i>	<i>Antiseptics</i>
<i>Paint Touch Ups</i>	<i>Sunscreen Agents</i>
<i>Mold Release Agents</i>	<i>Lacquers</i>
<i>Paint Removers</i>	<i>Plastic Foams</i>
<i>Humidity Barriers</i>	<i>Insecticides</i>
<i>Christmas Snow</i>	<i>Charcoal Igniters</i>

In addition to traditional uses for the aerosol packaging method, constantly widening application is found in the vast "specialties" field. The pleasant fragrance, expected in an aerosol shampoo, shave cream, or room-spray, exerts an even greater sales appeal when found in a paint remover, Christmas snow, anti-static spray or growth regulator. The D&O Aerosol Testing Laboratories can provide your aerosol specialty with this sales-clinching asset... individually developed for you. Specific information on request.

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handle a wide range of pressure packaged products. A newly developed formulation, an aerosol paint designed for use on both metal and plastics, is available under private label.

CSMA Aerosol Guide

A 96-page guide featuring testing methods, regulations and recommended practices developed in the aerosol field in the past ten years, was issued recently by the Chemical Specialties Manufacturers Association, 50 East 41st St., New York 17.

Available in loose-leaf binder form, the guide contains all accepted testing methods developed by the scientific committees of the CSMA's aerosol division and includes material on standard fills and safety precautions. Other sections are devoted to pre-marketing check lists, mailing and shipping regulations, and a glossary of terms used in the aerosol business.

The aerosol guide is available directly from the CSMA at \$8.00 per copy, plus postage.

Acquires USI Chicago Plant

DeMert & Dougherty, Inc., Chicago, through its subsidiary, Mid-American Chemical Terminal, has purchased the Chicago plant of U.S. Industrial Chemical Co., New York, a division of National Distillers Chemical Corp., it was announced late last month. Occupancy is scheduled for Dec. 1, by which time DeMert hopes to have all its activities consolidated at the new building.

Present plans call for immediate construction of an addition to the present unit, which is located at 5000 West 41st St. The addition will provide increased office space and will house the general and executive offices of DeMert and its affiliates, Aeropak, Inc., Chemical By Products Co. and Mid-American Chemical Terminal.

The new plant will also accommodate the production facilities of Aeropak, formerly located at DeMert & Dougherty's 47th St.



A new aerosol garbage can deodorizer, designed for both institutional and domestic use, was introduced recently by Sprayway, Inc., Chicago. Packaged in an 11-ounce aerosol container, the product is produced at both the Chicago and Ft. Lauderdale, Fla., plants of Sprayway. It is said to control odors caused by bacteria and decaying organic matter and destroy flies and maggots. "Sprayway" also is suitable for use in clothes hampers and containers used in sick rooms, nurseries and laundries.

plant which was destroyed by fire last spring.

Besides production facilities, the new 11-acre site features warehouse buildings and a bulk storage terminal for liquid chemicals.

New counter-display package of "Krylon Rust Release," contains 12 six-ounce aerosol containers of product which retails for 98 cents and is marketed nationally through hardware, automotive and department stores. Manufactured by Krylon, Inc., Norristown, Pa.

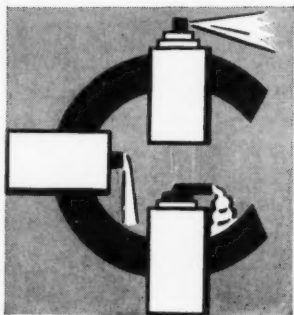


Metal Cans for Cosmetics

The metal container, "dressed up with imagination and ingenuity," is the solution to the problem of high cost of cosmetic packaging, according to J. H. Fredette, assistant general manager of the new products department of American Can Co., New York.

In a speech last month before the Chicago Society of Cosmetic Chemists, Mr. Fredette said that the tin can offers maximum product protection and at the same time can provide a packaging sales stimulant to the industry. He added that the metal container industry spends many millions of dollars each year on research and development, and is equipped to work with cosmetic manufacturers in the determination of appropriate package specifications; assist in product formulation and help in the development of filling and closing techniques.

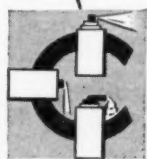
Mr. Fredette also predicted that technological developments soon will make it possible to pack such products as shampoos, hand lotions, face creams and skin fresheners in cans—or in new packages combining metal with aluminum, paper, fibre or plastics.



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duPont Names Bours

Appointment of William A. Bours, III, as director of sales of the Freon Products Division of E. I.



W. A. Bours, III

du Pont de Nemours & Co., Wilmington, Del., was announced recently. Mr. Bours succeeds Robert J. Thompson, who will retire at the end of the year.

Mr. Bours, formerly assistant sales director, will be replaced in that post by Thomas D. Johnson, Jr., who for the past four years has been manager of the division's propellants section. Until his retirement, Mr. Thompson will serve in an advisory capacity.

With du Pont since 1941, Mr. Bours first served as a member of the industrial engineering department staff at Chambers Works, Deepwater Point, N. J. In 1950 he was transferred to the organic chemicals department as sales development manager of the Fine Chemicals Division and in 1951 was named manager of the plants technical section. A year later he became sales manager of the chemicals division and held this post until 1954 when he assumed his present duties.

Mr. Johnson joined the company as a chemist in 1940. Shortly afterwards he was transferred to the research and plant development section of the explosives department's Burnside Laboratory at Carney's Point, N. J. In 1945 he returned to the organic chemicals department as technical sales trainee, and was a technical salesman for dyes and fine chemicals in

the Portland, Ore., district until 1949 when he was named assistant to the technical manager of the division.



A. H. Lawrence

In 1952 Mr. Johnson became manager of the auxiliary section of the dyes and chemical division, a post he held until he became propellant sales manager for Freon.

A. H. Lawrence has been named manager of propellant sales of the Freon Products Division, succeeding Mr. Johnson.

—★—

New Nylon Aerosol

A new nylon aerosol container has been developed by the plastic container division of Continental Can Co., Chicago. Made of "Zytel 42," a product of E. I. du Pont de Nemours & Co., Wilmington, Del., the new package is presently available only in a four-ounce size and in the Boston Round shape. Additional sizes and shapes will be offered at a later date. The container comes in natural (light straw) and standard colors.



Carbide Appoints Gaines

Robert W. Gaines has been named to the fluorocarbons technical service staff of Union Carbide Chemicals Co., New York, it was announced recently by John A. Field, vice-president. Mr. Gaines will work primarily in the field of aerosol propellants and will assist Carbide's customers in the application of company products. He joined Carbide in 1939.

—★—

New "Air-Wick" Aerosol

"Air-Wick" room deodorant in an aerosol package is now available in a "floral" fragrance, it was announced recently by Seeman Brothers, Inc., New York distributors of the product to the retail trade in the United States. "Air-Wick" now is also available in a "natural" scent in aerosol form. Like its "floral" companion product it is designated as a "spray". The natural scented aerosol product was formerly designated "Air-Wick" mist.

"Air-Wick", which is manufactured by Airkem, Inc., New York, also is marketed in liquid form, packaged in a glass bottle with a wick dispenser.

Five and one-half ounces of "Air-Wick" spray are packed in a six ounce can supplied by Continental Can Co., New York. Retail price of the aerosol spray is 89 cents per can. "Air-Wick" spray is loaded in the east by Powr-Pak, Inc., Bridgeport, Conn., and in the west by Par Industries, Inc., Los Angeles. Aerosol valves are by Precision Valve Corp., Yonkers, N. Y.

Introduction of the new "Air-Wick" spray is to be backed by an extensive advertising campaign in national magazines and on network television shows. Norman, Craig & Kummel, Inc., New York, handle "Air-Wick" advertising. As a special introductory offer, retail dealers may obtain a reduction of \$1.00 per case on initial orders of up to five cases. Each case contains six cans of "natural" fragrance and six of the "floral" scent.

Promotion Key to Aerosol Sales Growth

A WELL planned promotion program could create a \$20,000,000 market by 1960 for drugs and pharmaceuticals in pressurized packages according to marketing experts of the Freon Products Division of E. I. du Pont de Nemours & Co. This estimate is based on a nationwide survey conducted late last year and analyzed only recently. Estimated sales in 1956 amounted to about \$3,500,000, representing two per cent of the total retail sales of pharmaceuticals which lend themselves to pressure packaging. These sales however were attained with virtually no consumer promotion at all.

Lack of consumer promotion was proved by overwhelming evidence. In the case of burn remedies, for example, less than five per cent of housewives interviewed personally had ever heard of such products in aerosol packages, and only one out of a hundred had

ever used a push-button spray to treat burns. Yet, such products have been available on the open market for at least three years, with the aerosol package offering distinct advantages over other types of containers for as painless, easy, fast application of medicaments.

An even greater lack of consumer awareness exists in the spray bandage and antiseptic fields. Only three per cent of the women interviewed had heard of spray bandages and only one in a thousand had actually used one. In the case of antiseptics, only two per cent were aware such products were available in spray packages, and only four out of every thousand women had used them.

Total dollar market for drug and pharmaceutical products that might be packaged as aerosols, excluding prescription items, has grown steadily at an average rate of five million dollars per year to

a total of about \$175 million in 1956, according to the market research division of the Freon Products Division.

"If this growth rate continues, a 200 million dollar market is foreseen in 1960," they estimated, adding, "obviously aerosols will never replace all of this market, a 10 per cent share for aerosols should be attained easily by 1960 with proper promotion."

About 50 different pharmaceutical or drug products are now available in pressurized containers, including preparations for burns, external antiseptics, poison ivy remedies, nose drops, nasal sprays and inhalants, and a few prescription items such as an octyl nitrite preparation for aborting certain types of heart attacks. Slightly more than 800,000 pharmaceutical aerosol packages were produced in 1953 and an estimated two and a quarter million units, retail-valued at about \$3.5 million, were turned out last year, according to the du Pont survey.

NEW—Small Run Aerosol "Cold" Filler



◀ **Complete Unit** — Formica top 30" x 48" with chilling unit, air compressor, air crimper and laboratory scale.

Chilling Unit—Showing cold box and valves for controlling flow of propellants. ▶



Small production "cold" filler capable of filling approximately 1000 — 6 oz. cans per 8 hour day. Two different propellants can be mixed and filled. 20 cans and product can be pre-cooled in the cold box. Completely automatic refrigeration unit—maintains cold box temperature of -40°F and cold coil temperature of -50°F . Safety features include high-pressure blow-off valve and pressure operated cutout.

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MANUFACTURING CORPORATION
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New Sprayway Fla. Plant

Sprayway, Inc., Chicago, manufacturer of aerosol products, has opened a new plant at 1200 N.W. 23rd St., Fort Lauderdale, Fla., it was announced recently by Herbert Ehler, president. The new plant is capable of producing 50,000 units daily.

Florida was selected as the site of the new Sprayway plant because of the area's proximity to Latin American markets. The company currently produces 26 varieties of aerosol products, including insecticides, room deodorants, foot sprays and glass cleaners.

Mr. Ehler said the firm has begun an extensive advertising campaign in Florida, utilizing newspaper, radio and television media. He pointed out that aerosols manufactured in Florida are compounded differently from those produced in the company's Chicago plant because of temperature differences.

—★—

Titan Open House

The aerosol division of Titan Chemical Industries, Inc., Colorado Springs, Colo., held an open house Sept. 28 at its new pressure packaging plant in that city. The new unit began full scale production early last month.

—★—

"Freon" Honors Kimble

C. Earle Kimble, technical sales representative in Bridgeport, Conn., for the Freon Products Division of E. I. du Pont de Nemours & Co., Wilmington, Del. was honored last month at a dinner party held in New York in commemoration of 25 years service with the company. Management and sales personnel of the division attended the affair.

Mr. Kimble, who has held his present post since November, 1954, joined the company in 1932 as a clerk in the accounting department. He later was transferred to du Pont's Kinetic Chemicals Division, and in 1950 was named a technical sales representative in the division's aerosol propellants section.

**Which filler
retains
odorant longest?**



**Which filler
reduces outage?**



Celite diatomite does both jobs in your cleanser

WITH THE SIMPLE addition of one mineral filler, your cleanser acquires two important properties:

1. Celite* diatomite keeps cleansers fragrant longer because it is so highly absorbent . . . soaks up odorants like a sponge and retains them for weeks after package is opened.
2. Celite also eliminates outage. Composed of microscopic irregularly shaped particles, Celite

won't pack down, keeps your package fluffed up to full size right to the point of use.

Mined and processed by Johns-Manville from one of the world's purest deposits of diatomaceous silica, Celite is available in a wide range of grades. Find out which grade best meets your needs. Write to Johns-Manville, Box 14, New York 16, N.Y. In Canada, Port Credit, Ontario.

*Celite is Johns-Manville's registered trade mark for its diatomaceous silica products



Johns-Manville CELITE

INDUSTRY'S MOST VERSATILE MINERAL FILLER

SOAP and CHEMICAL SPECIALTIES

Production...

EQUIPMENT • MATERIALS • PROCESSING

Book Reviews

Production Clinic

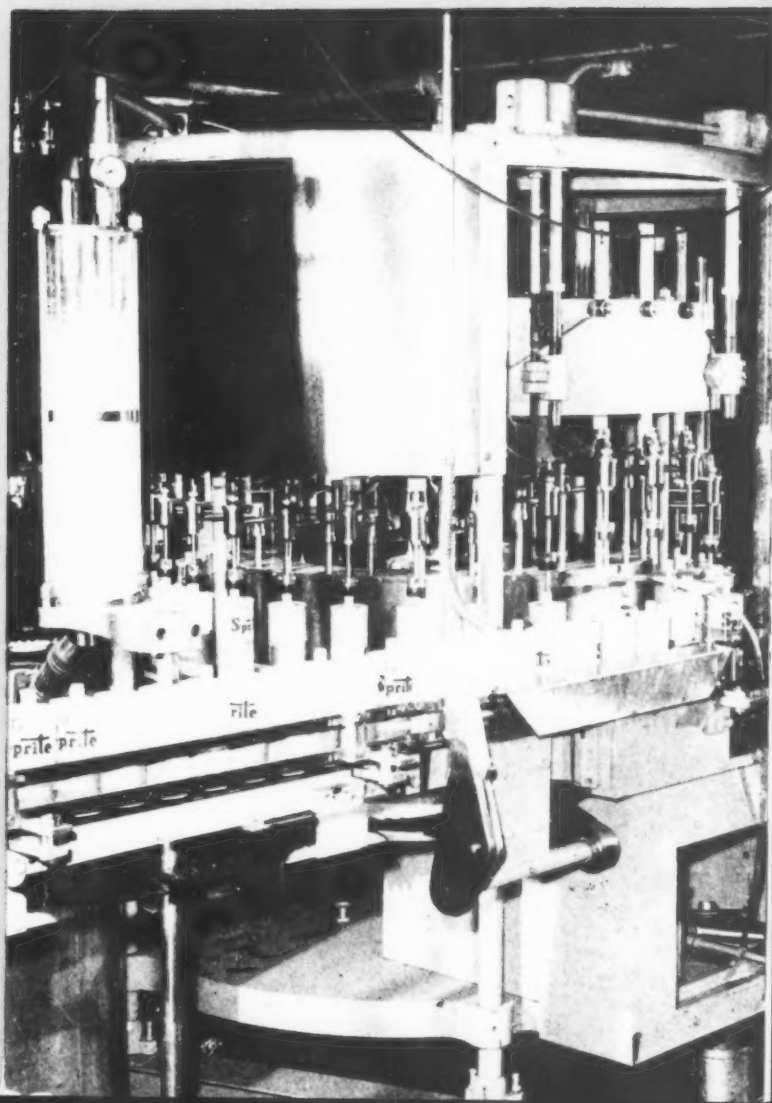
Soap Plant Observer

Products and Processes

New Patents

Bulletins and Equipment

High speed rotary vacuum filling machine fills 150 twenty-two ounce cans of "Coral" and "Sprite" liquid detergents at the recently modernized plant of Sinclair Manufacturing Co., Toledo, O. Made by U. S. Bottlers Machinery Co., Chicago, unit is equipped with 36 nozzles. Containers are American Can Co. metal cans with polyethylene no-drip pour spout and plastic cap. Full story of Sinclair plant on P. 161.



HOUCHIN

Supplies Your Every Soap Need

from

KETTLES

to

WRAPPING MACHINES

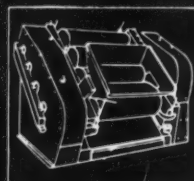
Whether you require one piece of machinery, or equipment for an entire soapery, Houchin can supply your every need.

Such a breadth of experience assures you of machines designed not only to perform a single process, superlatively well—but also of machines which, you will discover, coordinate closely with the preceding and following processes.

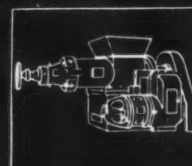
Specifically, Houchin builds:

KETTLES	PLODDERS
CRUTCHERS	CHIPPERS & POWDER MILLS
AMALGAMATORS	LAUNDRY SOAP CUTTERS
MIXERS	TOILET SOAP CUTTERS
SLABBERS	PRESSES
MILLS	AND MANY OTHER KINDRED
	MACHINES.

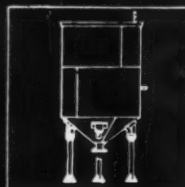
Whether you need a single one of these machines or equipment for an entire soapery, it will pay you to write us and get information about the complete Houchin line of soap machines.



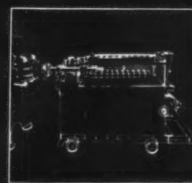
MILLS



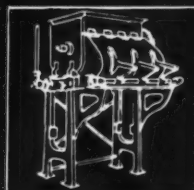
PLODDERS



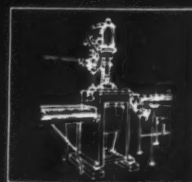
KETTLES



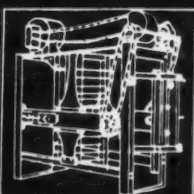
TOILET SOAP
CUTTERS



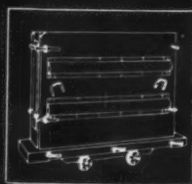
AMALGAMATORS



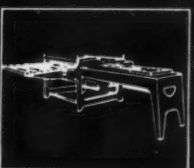
PRESSES



SLABBERS



SOAP FRAMES



LAUNDRY SOAP
CUTTERS



VARIABLE SPEED
CRUTCHERS

HOUCHIN MACHINERY CO., INC.

HAWTHORNE, NEW JERSEY, U. S. A.

Manufacturers of Soap Making
Machinery for over a Century

Production SECTION

Modern Liquid Detergent Plant*

ANOTHER phase in the continuing modernization program of the production facilities for its line of liquid dishwashing detergents and liquid bleach was completed recently by Sinclair Manufacturing Co., Brown and Woodland Aves., Toledo, O. Sinclair, founded by H. M. Sinclair in 1911 to produce chlorinated lime, was one of the early producers of a liquid detergent ("Sprite") for household dishwashing. "Sprite" was first marketed about 1948. Earlier this year, "Coral", another liquid detergent was added to the Sinclair line. Both products are based on "Triton X-100" and "X-102", non-ionic surface active agents made by Rohm & Haas Co., Philadelphia. The "Tritons" are alkyl aryl polyether alcohols and are supplied at essentially 100 per cent concentrations.

"Coral" and "Sprite" are both made in Sinclair's recently modernized plant in Toledo, which features the latest in plant design and manufacturing and packaging equipment. The "Tritons" and other liquid raw materials are brought into the factory in Sinclair's own tank trucks. The liquids are transferred to large storage tanks within the plant. Production facilities are located on the ground floor.

The first manufacturing step consists of pumping the surface active agent and other liquid ingredients into a large mixing tank.

This is done by automatic meter pumps. Perfuming materials and dye are then weighed out and added, and the required amount of water is metered into the tank. The water has previously been treated to eliminate chlorine and fluorine.

From the mixer, the formulation is automatically piped to a holding tank. From there it is pumped through filters and a heat exchanger to the filling machine. The heat exchanger stabilizes the mix at the temperature desired for filling.

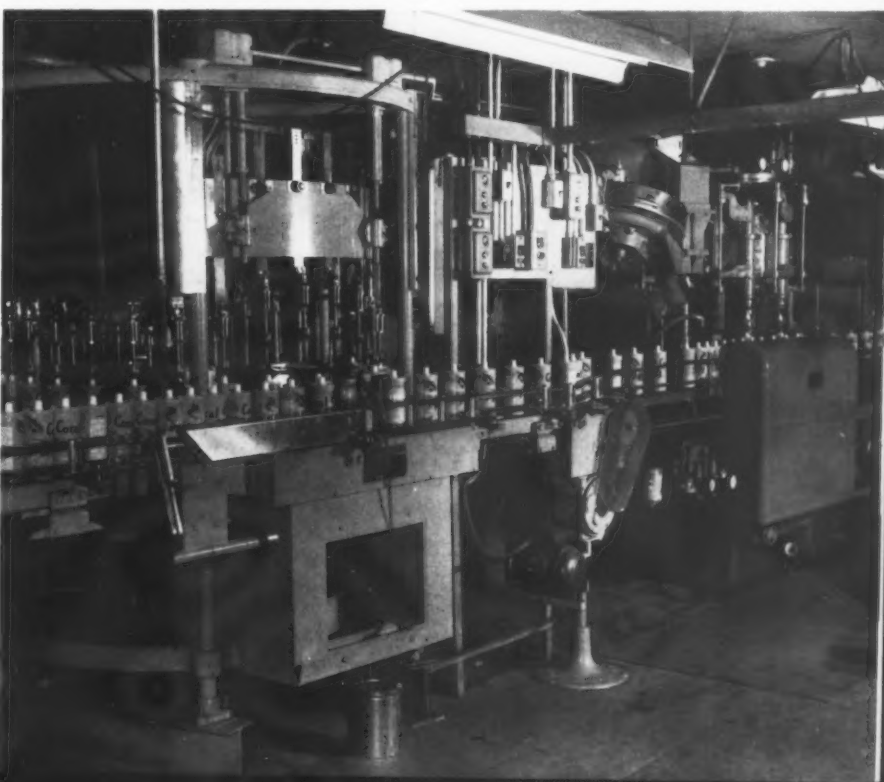
Both "Sprite" and "Coral" are now packaged in metal cans supplied by American Can Co., New York. "Coral" comes in a 22-ounce can with a no-drip, polyethylene plastic pour spout and plastic cap. The container features

a cemented side seam that permits all-around lithography. "Sprite", which was originally packed in glass bottles, has also adopted Canco's metal containers. The product comes packaged in both 12 and 22-ounce lithographed cans with cemented side seams and plastic, no-drip pour spouts.

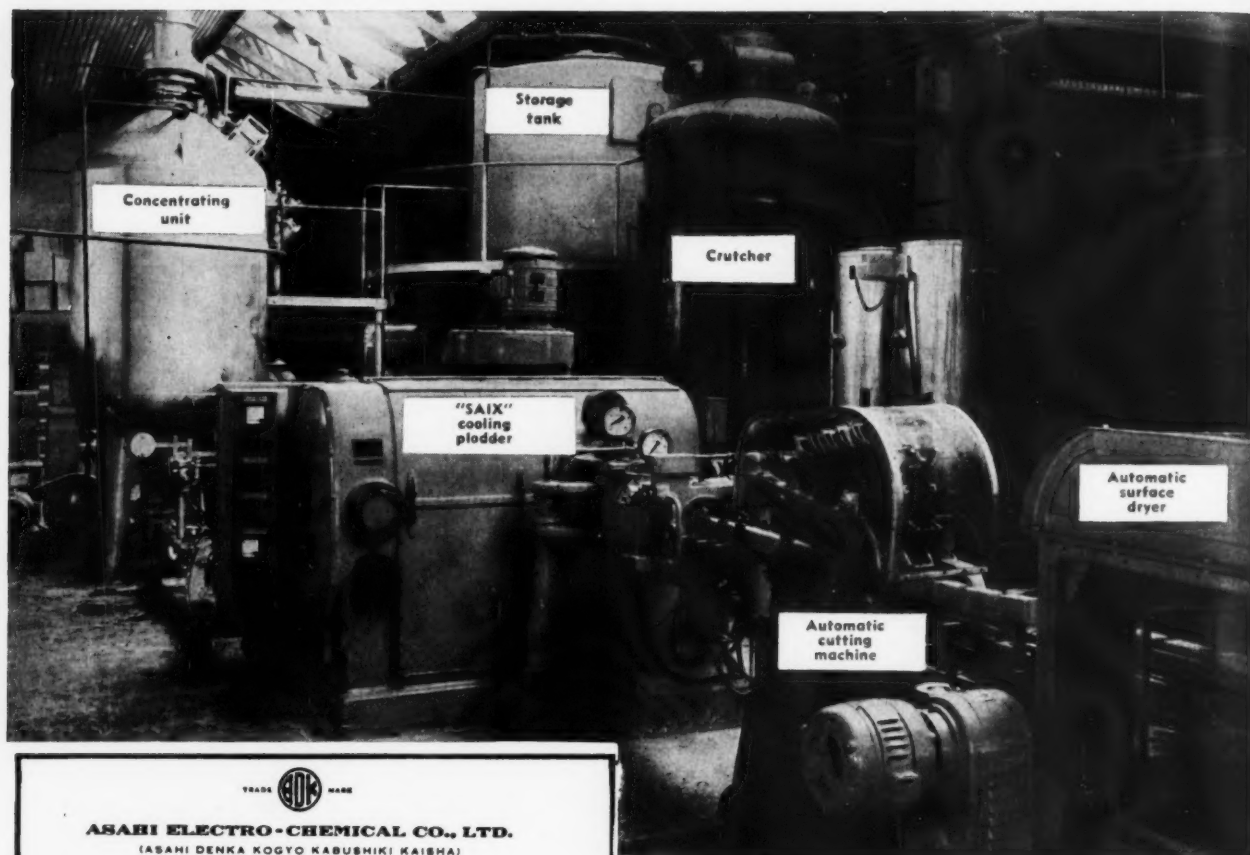
The cans for these two products arrive at the Sinclair plant in re-usable cartons and are stored on the upper floor of the building. This storage area is encircled with a modern automatic conveyor system that enables one operator to keep the production line on the lower floor supplied with containers. A minimum of handling is involved.

The conveyor brings the cartons of empty containers down to the beginning of the production

Cans filled with "Coral" liquid detergent by high speed rotary vacuum filler (left) travel to new air chuck capping machine (right) by Pneumatic Scale Corp., Quincy, Mass.



*Based on the article, "Do-It-Yourself Dishwashing", which appeared in the July-August, 1957, issue (Volume XV, Number 4) of "The Rohm & Haas Reporter", house organ of Rohm & Haas Co., Philadelphia. Rohm & Haas was also kind enough to lend us the photographs that appear with this article.



TRADE MARK
ASAHI ELECTRO-CHEMICAL CO., LTD.
 (ASAHI DENKA KOGYO KABUSHIKI KAISHA)
 2850 3-CHOME, OSU-MACHI,
 ARABAWA-KU, TOKYO
 JAPAN

CABLE ADDRESS: TOKYODENKA TOKYO

Tokyo, 28th February 1957

Messrs.
 Meccaniche Moderne,
 Casella Postale 386,
 Busto Arsizio,
 Italy.

Dear Sirs:

Re: - S A I X Cooling Plodder.

We are pleased to inform you that the Laundry Soap Manufacturing Plant, comprising a SAIX-co Cooling Plodder and sundry auxiliary machines, supplied to us around the end of 1955 through your agents in Japan, Messrs. C. Correns & Co., Ltd., Tokyo, is working to our entire satisfaction.

We are also glad to confirm that the laundry soap produced with the aid of your cooling plodder is of a better quality than that we have been manufacturing up to now by ordinary cooling methods. The soap has very good washing and lathering qualities due to the milling equipment incorporated in the machine. The outstanding merits of your cooling plodder, however, are its labour-saving qualities, and the fact that by its application the amount of scrap soap is reduced to minimum.

We believe that our satisfaction with your cooling plodder is best illustrated by the fact that we have ordered from you in September last year two more SAIX-co Cooling Plodders, one of which has just arrived, while the second one is expected to arrive here in June.

We have no hesitation to recommend your cooling plodders, as well as all other machinery you are manufacturing, to any prospective buyer.

Yours faithfully,
 ASAHI ELECTRO-CHEMICAL Co., Ltd.

Ed. Hoshino

Photograph of a "SAIX-PISONI" Automatic type plant for the continuous production of plodded soap.

Range of applications:

- Plodded soaps from either low or high titer fats. • Pure soaps, 62% fatty acids, retaining natural moisture (28-30%). • Soaps containing up to 40% moisture. • Soaps filled with silicate or other builders, their fatty acids contents lowered to 35%, and all natural moisture retained. • All kinds of opaque concentrated soaps, either pure or filled, and based on low or high titer fats. • Concentrated translucent soaps without any addition of glycerine, alcohol or other chemicals. • Translucid or opaque toilet soaps.

Special features and savings:

- Absolutely no changes in fatty acids and moisture percentages between the hot liquid soap fed into the plant and the resulting extruded bar. • Soaps crystallized up to 100% in "Beta Phase", consequently of excellent lathering characteristics. • Little cooling water required at temperatures between 15°C. and 30°C. • One man can operate the plant. • Maximum economy in space. • Soaps can be cut, stamped and packaged without scraps. • Extremely easy to operate: minimum maintenance required. • No distortion or twisting of soap billets during storage. • Automatic perfuming device. • 100% savings on steam, 50% on cooling water, 50% on electrical power, 70% on labor.

Production capacities:

1/10, 1/4, 1/2, 1, 2, 3 tons per hour and more.

45 "SAIX-PISONI" PLANTS MANUFACTURED IN THREE YEARS

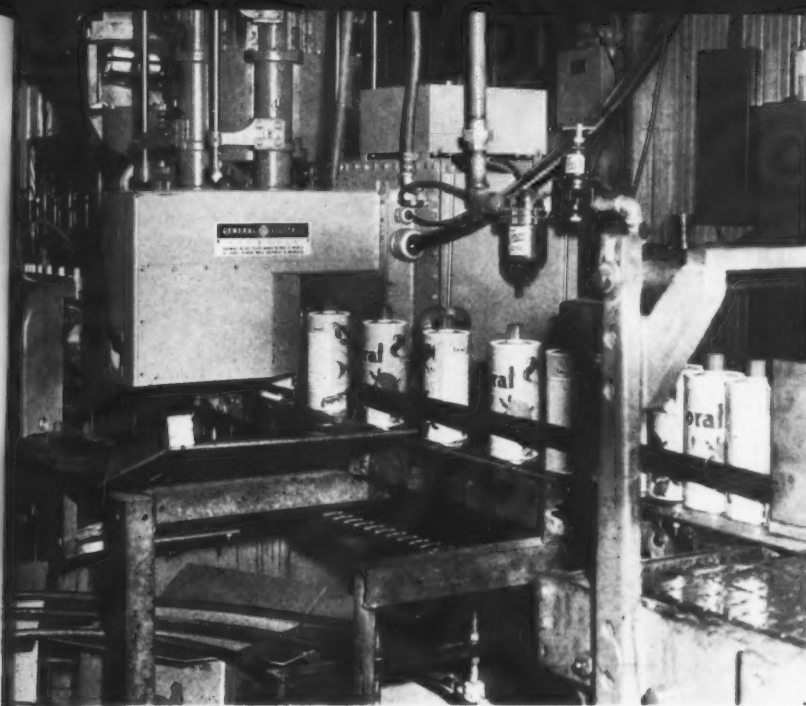
MECCANICHE MODERNE are also makers of: continuous plants for toilet soaps; continuous sulfonating plants; spray-driers for the production of soap and detergent powders in bead form.



MECCANICHE MODERNE

CORSO SEMPIONE, 51

U. S. SALES REPRESENTATIVES
AMERICAN ASSOCIATES
 BUSTO ARSIZIO (Italy) 520 Fifth Ave. N. Y. 36



Between capper and cartoning station each container passes through an X-ray fluid level check, shown above. Made by General Electric Co. under the trade name "Hytafill," the checking device is said to be accurate to one-sixteenth of an inch.

line on the first floor. Here an operator upends the cartons and drops the cans, right side up, onto the bed of the unscrambler. From here the containers are fed in orderly fashion to a conveyor which leads them to the filling machine. The empty cartons are dropped onto a separate conveyor which takes them to the packaging station to receive the filled cans.

At the filling machine (a U. S. Rotary Vacuum Filler manufactured by U. S. Bottlers Machinery Co., Chicago) the empty cans meet the product they are to contain. The rotary filler is equipped with 36 filling nozzles and can handle up to 150, 22-ounce cans per minute. As each can travels down the conveyor to the filling machine, it is shunted off and placed under a filling tube. It rides around the filler as the detergent flows in. During filling the tube drops well down into the container to avoid turbulence and aeration which would cause foaming.

When the can has completed its circular ride around the filling machine the nozzle is withdrawn. The filled cans then proceed onto the conveyor and are headed for

the capping machine. Here the plastic cap is spun on as the can moves around it, and the packaging operation is thus completed.

The containers move a few feet further to reach the boxing station where they are reunited with the cartons.

Not every can completes this portion of the trip, however. At a point between the capper and the

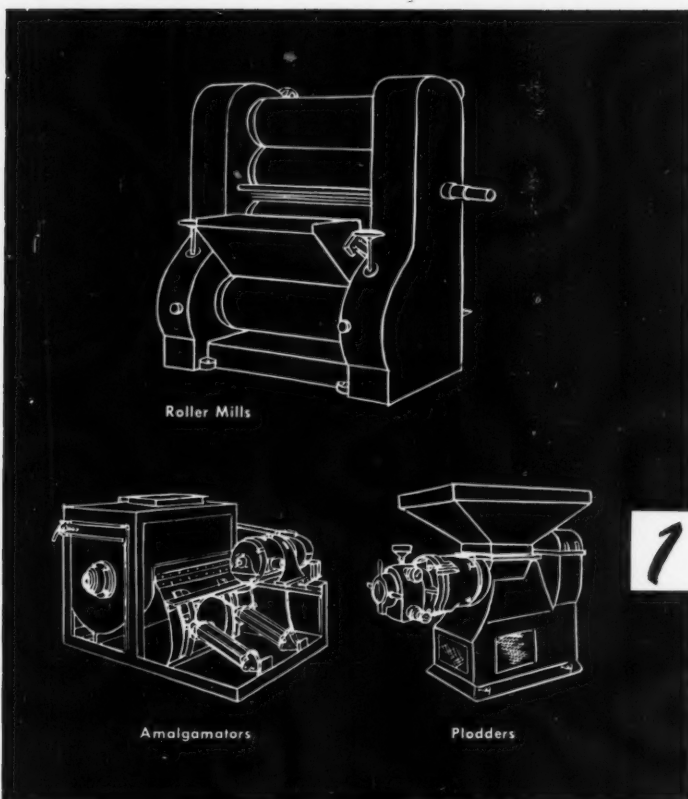
cartoning station each container passes through an inspection device made by General Electric Co. under the trade name "Hytafill". This device consists of an X-ray beam focussed on the exact fill line of the can. If the liquid level of the container is as little as one-sixteenth of an inch below the correct line, the X-ray "inspector" activates a "bouncer" and the offending can is removed from the line by a blast of air. In the case of over-fill, the device merely flashes a light but permits the can to pass on.

The last step after passing the X-ray station, is the boxing operation. The number of cans required to fill one carton is automatically grouped at the end of the conveyor. Each group of cans is then dropped simultaneously into the open carton waiting on the carton conveyor line beneath them. The filled cartons pass through a sealer machine and are placed on pallets by an operator. Loaded pallets are taken by fork-lift trucks to the warehouse or directly to trailer trucks waiting at the shipping dock.

Uniformity of product is achieved by close quality control. Raw materials used by Sinclair are

Number of cans required to fill one carton is automatically grouped at the end of the conveyor. Each group of cans is then dropped simultaneously into the open carton waiting on the carton conveyor line beneath them by means of a Standard Knapp carton filling and sealing machine.

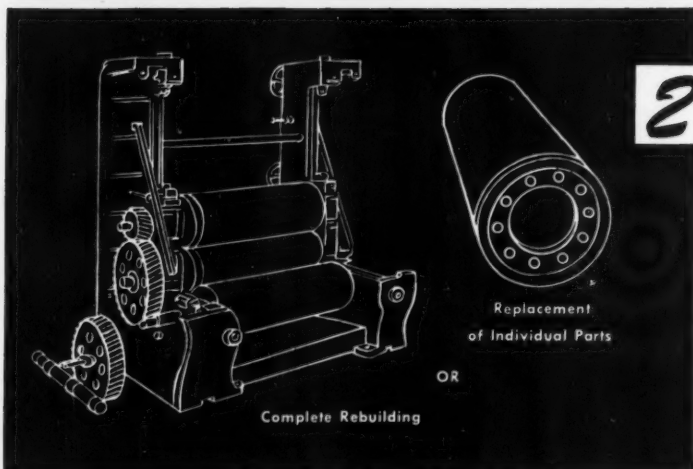




Roller Mills

Amalgamators

Plodders



Complete Rebuilding

Replacement
of Individual Parts

OR

Lehmann provides
2 COST-CUTTING
APPROACHES
*to more profitable
soap production*

1

LEHMANN SOAP FINISHING MACHINES

... A complete line of standard units for improving returns from present operations or "custom" machines built to suit your changing requirements. Mills of all sizes, Preliminary and Finishing Plodders, Tilting Type and Bottom Dump Amalgamators . . . designed and engineered with the user in mind, in every construction detail.

2

LEHMANN CERTIFIED FACTORY RECONDITIONING SERVICE

... An engineered approach and investigation into all factors contributing to the operational efficiency of machines you are now using. Whether you want a small part replaced or a large production mill completely rebuilt, Lehmann is equipped to do the job. All rebuilding is done on modern precision equipment, to assure first quality work.

Lehmann is completely familiar with the mechanical problems involved in processing to past standard formulations and to the newer detergent types. Make use of Lehmann services on any processing machine problem.

Your problem is no further away than your telephone. Let's talk it over.



J. M. LEHMANN COMPANY, Inc.

COAST-TO-COAST SERVICE

Moore Dry Deck Company
Oakland, California

Lammert & Mann Co.
Chicago 12, Illinois

J. M. Lehmann Co., Inc.
Lyndhurst, New Jersey



Fork lift truck takes pallets loaded with filled, sealed cartons to truck or storage.

subject to regular analytical testing. Daily tests are made on the firm's products. Each container turned out by the plant is dated.

One of the early producers of liquid detergents for household dishwashing, Sinclair was founded by H. M. Sinclair in 1911 to produce chlorinated lime and for many years was a leading manufacturer of this product. Lye, borax, and household ammonia were later added to the line, and in 1930 liquid chlorine bleach was intro-

duced under the Sinclair label.

A few years prior to these changes H. M. Sinclair, Jr., had entered the firm and was joined a little later by his brother John. In 1928 the senior Sinclair retired and since that time the two brothers have directed the activities of the company.

Today, liquid bleach is still a large-volume item of manufacture. But chlorinated lime and all other products which were made by Sinclair Manufacturing in its



Seated behind the desk H. M. (Marsh) Sinclair, Jr. and John Sinclair (left), brothers and managing partners of family firm founded by H. M. Sinclair, Sr., in painting above.

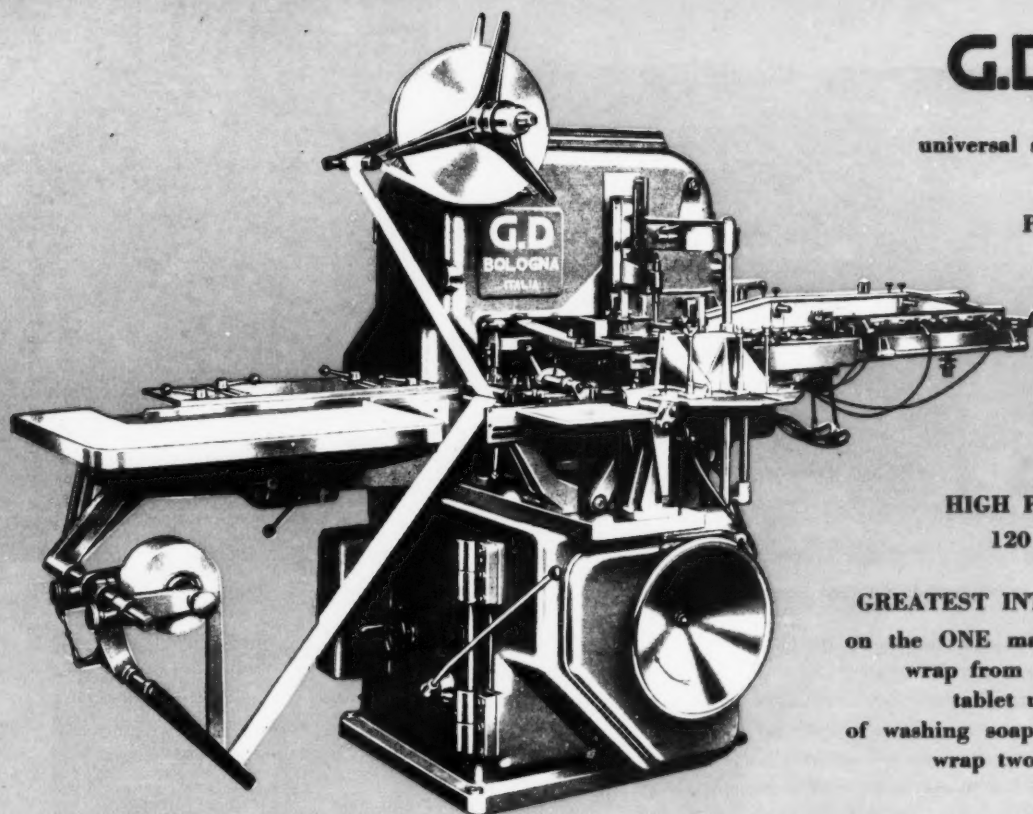


earlier years have been discontinued. All production facilities other than those required for household bleaches are now devoted to liquid detergents.

Sinclair's decision to market a liquid dishwashing compound was quite a pioneering move in 1948. "Sprite" was first marketed in the Toledo area where the firm's household bleaches were already well established. Today the blue and yellow "Sprite" container may be found on the shelves of most supermarkets and corner grocery stores in Ohio, Indiana, Michigan, parts of Kentucky, and in western Pennsylvania.

Early this year, Sinclair introduced "Coral", another liquid dishwashing compound. With this new product the company has greatly expanded its marketing area. "Coral" is currently being distributed across the eastern half of the United States in a container featuring a marine motif in three color lithography.

In addition to dishwashing both "Sprite" and "Coral" function in many homes as light duty detergents for the laundering of fine fabrics, particularly of woolsens. Smooth surface cleaning, mirror and window washing, and even car washing, are among the tasks for which Sinclair's liquid household detergents find frequent application.



G.D. 4000

universal soap-wrapping machine

PERFECT WRAPPING:

on all types of soaps
(with two inner
wrappings and an
external label or in
cellophane only)
with automatic
glueing on three sides

HIGH PRODUCTION SPEED:

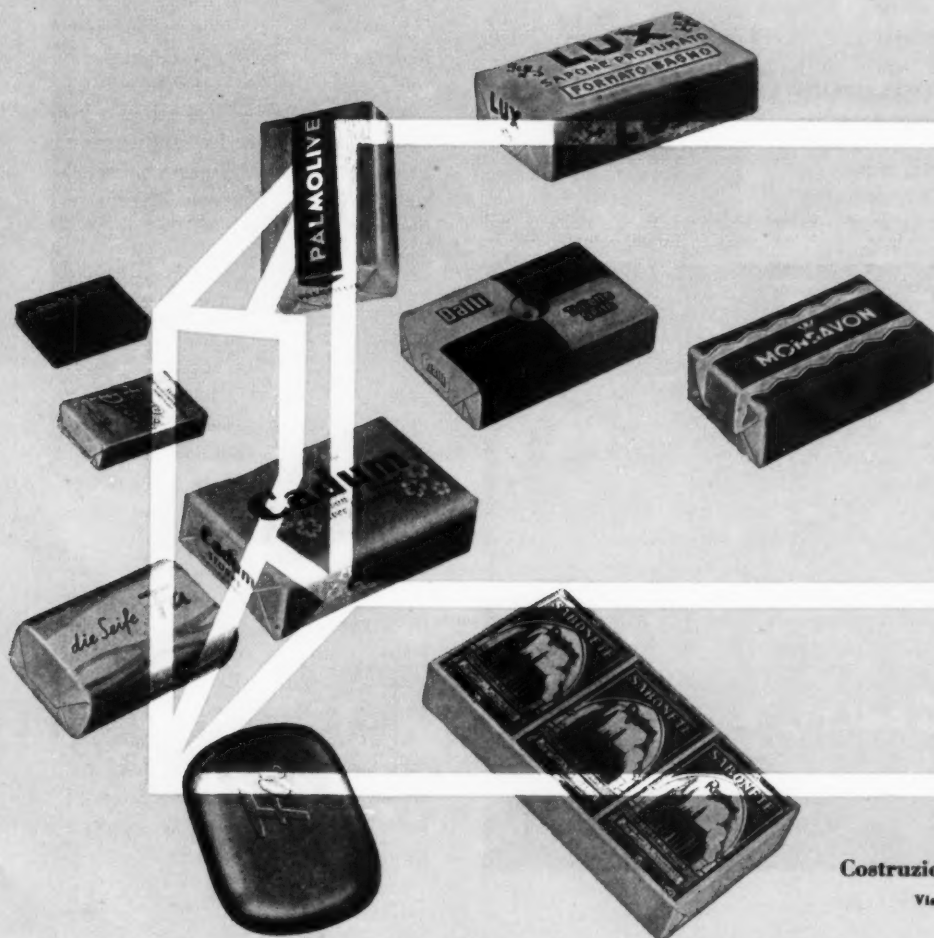
120 wrappings per minute

GREATEST INTERCHANGEABILITY:

on the ONE machine it is possible to
wrap from the small "Hotel," size
tablet up to the 400 gr. cake
of washing soap. It is also possible to
wrap two or three loose tablets
into one packet

EASY CHANGE OF SIZE GROUPS:

requiring NO change of cams.
Time required: 20 minutes.



N. B. - The white outlines show
the real minimum and maximum
size of products which can be
wrapped by the machine.

G.D.

Soc. Ass. Semp.
di E. & A. Seragnoli
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Bologna (Italia)

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PING:

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FEED:

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LITY:

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Book Reviews

Pest Control Research

Advances in Pest Control Research, Volume I, edited by R. L. Metcalf, Interscience Publishers, Inc., New York, 1957, cloth bound, 9 1/4 x six inches, 514 pages, price \$11.00.

This is a collection of 10 individual monographs on subjects selected from recent research trends in the pest control field. Each subject is treated by an author or authors qualified not only to give a comprehensive review but also a critical evaluation of the new developments in a particular field.

Subjects treated include among others: "Control of Health Hazards Associated with the Use of Pesticides", by J. M. Barnes; "The Chemistry and Mode of Action of Herbicides", by A. S. Crafts; "Uses of Radioisotopes in Pesticide Research", by Paul A. Dahm; "Mechanisms of Fungitoxicity", by James G. Horsfall; "Repellants for Biting Arthropods", by G. F. Shambaugh, R. F. Brown, and J. J. Pratt, Jr.; "Chemical Analysis of Pesticide Residues" by Milton S. Schechter and Irwin Hornstein.

Each monograph is followed by extensive literature references. A subject index covering the entire volume is appended.

This book is part of a series. Volume II is in preparation and will also comprise 10 separate articles. Its authority will be truly international, with contributors from Australia, England, Germany, Puerto Rico and Switzerland included along with American scientists.

"Empilan" Pamphlet

"Empilan" detergent additives, their properties and applications, are briefly surveyed in a ten-page brochure published recently by Marchon Products Ltd., Whitehaven, Cumberland, England. These products are lather boosters

and stabilizers designed for incorporation in household detergents. The "Empilan" line includes additives for powder and for liquid anionic detergent formulations, which add to the finished product's detergency as well as to its foaming properties.

Detailed information regarding formulation and performance of "Empilan" containing household detergents is supplied in the Marchon brochure, which is available.

Antifoam Data Sheet

A data sheet describing "Hodag Antifoam S-118" was published recently by Hodag Chemical Corp., 7247 North Central Park, Chicago 45, manufacturers of surface active agents. Designed to prevent foam formation in industrial waste treatment plants, the product is a free flowing liquid which can be applied manually or by automatic devices. Use concentrations of 0.5 to one p.p.m. are said to be effective during normal foaming periods.

Organic Chemistry Text

"Systematic Organic Chemistry," Theory and Applications, by Hugh C. Muldoon and Martin I. Blake, North Dakota State College, published 1957 by McGraw Hill Book Co., New York. Cloth bound, 828 pages, price \$7.75.

This volume is a general organic chemistry text book with special emphasis on biological applications. While emphasizing principles and their application the authors also outline current industrial methods for the manufacture of some commercially important synthetics. Industrial and household uses of hundreds of compounds are indicated.

Mixing Machinery Data

Sprout-Waldron & Co., Muncy, Pa., recently issued a new 20-page bulletin describing its complete lines of processing equipment.

Included in the fully-illustrated, two-color booklet is information on the company's size reduction, mixing, bulk materials handling and size classification units. In addition, the bulletin contains installation photographs, references to special applications, lists of materials handled and complete systems designed and built by Sprout-Waldron. Copies of the publication may be obtained from the company.

Organic Reactions, Vol. IX

"Organic Reactions" Volume IX, Roger Adams, editor in chief, published by John Wiley & Sons, Inc., New York, 1957, cloth bound, 9 1/4 x 6 inches, 468 pages, price \$12.

This volume is the ninth in a series which was started in 1932. Purpose of the series is to provide a compilation of all important synthetic chemical reactions. Individual chapters are written by men who have had special experience with the reaction they are writing about. Tables have been compiled and are included in each chapter, listing compounds which have been prepared by or subjected to the reaction under discussion in that chapter.

Modern Drying Plant

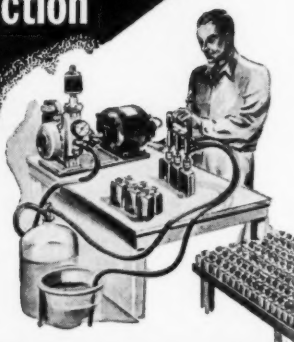
A wide range of drying equipment for the processing industries is described in an illustrated survey article published in the August 1957 issue of *Manufacturing Chemist*. Tray driers include conveyor and batch types. Cross flow ovens, vacuum driers, and units combining the tray and tunnel systems are included. Pan driers for the handling of granules and powders, spray driers of various types and pneumatic driers are included.

Among the spray driers the "Ring Jet" model by F. W. Berk and Co. Ltd. features a new atomizer, designed for the manufacture of a high bulk density product by minimizing aeration of the particles. Another unit for the spray drying of liquids and slurries

(Turn to Page 177)

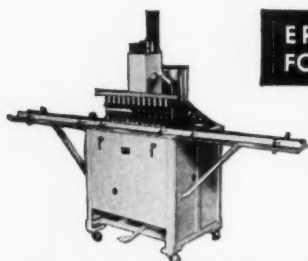
**ERTEL BOTTLE FILLERS MEET DEMAND
FOR 40-80 BOTTLES PER MINUTE, and**

**Materially lower
Your Production
Filling
Costs**



ERTEL PORTABLE FILLER

This Vacuum Bottle Filler belongs in every plant. Fills batch or sample lots of materials at lowest cost; for small operations where large expensive equipment is not practical. Fully automatic overflow—no drip spouts. Instantaneous flow — won't fill defective or cracked bottle.

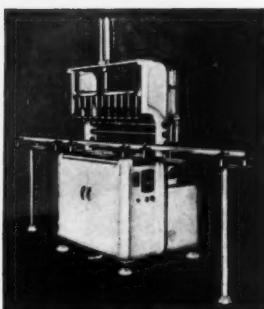


**ERTEL ESA FILLER
FOR SMALL BOTTLES**

The most practical filler for small bottles in quantities of 40 to 60 per minute. To appreciate this unit it should be viewed in operation — the finest low cost trouble-free unit on the market.

**ERTEL PNEUMO-VAC FILLER
Filling Range 3" to 13" High Bottle**

For speeds up to 40 quarts per minute, this precision Ertel filler has no equal. New type spouts positively prevent drip-page. Available with circulatory passages either bronze, plated, or stainless steel. Adjustments are simple and require but a few seconds time. If you have a filling problem see the Pneumo-Vac — it's designed for low cost operation.



Ask to have an Ertel representative show you why Ertel Fillers are so enthusiastically acclaimed by users in the pharmaceutical, drug, cosmetic, chemical and food industries.

**ERTEL ENGINEERING
CORPORATION**

KINGSTON 6, NEW YORK
Branch Office & Showroom Located in New York City



COMPLETE LINE OF

Liquid Handling Equipment



**Pine
Oil**

Terpineol

**VBR.
Synthetic Resins
(Emulsifiable Type)**

**Distilled Tall
Oil Products**

Soap, paper, paint and many other industries find these products excellent and economical.

Available in bulk or drums from this dependable source of supply. Write for typical analysis sheets.



THE GLIDDEN COMPANY

SOUTHERN CHEMICAL DIVISION
P. O. Box 389 Jacksonville 1, Fla.

Offices

52 Vanderbilt Ave. 25 E. Jackson Blvd.
New York, N. Y. Chicago, Illinois

Representatives in Principal Cities

SOAP and CHEMICAL SPECIALTIES

NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, MacNair - Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

No. 2,802,793. Treatment of Soap, patented by Louis Coetzer, Rynfield, Benoni, Transval, Union of South Africa, and Edward Anthony Wainwright, Durban, Natal, assignors to Lever Brothers Co. New York. The invention teaches a process of hardening a bar of at least 20% moisture content soap obtained by extruding the soap at a temperature not exceeding 35° C., which comprises heating the bar by means of alternating current to a temperature of at least 40° C. but below that at which the soap becomes no longer form-retaining due to melting and then allowing the bar to cool.

No. 2,802,845. Production of Fatty Acids from Soaps, patented by Fred S. Sadler, Pomona, Calif., assignor to Sharples Corp. In a process for the production of fatty acids wherein a soap-containing mass is subjected to the action of a mineral acid to free fatty acids from the soap, the step is claimed of dispersing said soap-containing mass in aqueous media by action of a dispersing agent to accelerate the action thereon of said mineral acid, and to accelerate the formation into phases of the resultant reaction mass.

No. 2,801,978. Ammonia-Containing Detergents, patented by Jacob Lincoln Perlman, Albany, N. Y., assignor to B. T. Babbitt, Inc., New York. This patent covers a dry finely-divided solid ammonia-containing detergent preparation which is stable, free-flowing and non-caking and contains as essential constituents from about 87% to about 99% of ammonium bicarbonate, from about 1% to about 3% of anhydrous alkali metal polyphosphate, and from 0% to 12% of a dry solid surface active agent from the group consisting of alkyl aryl sulfonates containing from 8 to 20 carbon atoms in the alkyl chain, alkyl sulfates containing from 6 to 20 carbon atoms in the alkyl chain, sulfated aliphatic amides containing from 8 to 20 carbon atoms, sulfated aliphatic amines containing from 8 to 20 carbon atoms, sulfonated aliphatic amides containing from 8 to 20 carbon atoms, sulfonated aliphatic amines

containing from 8 to 20 carbon atoms, sulfated aliphatic esters containing from 6 to 20 carbon atoms, sulfonated aliphatic esters containing from 6 to 20 carbon atoms, and alkyl sulfonates containing from 8 to 20 carbon atoms.

No. 2,804,102. Automatic Pressure Container Vacuumizing, Filling and Charging Machine, patented by Ralph D. Cooksley, Morristown, and William M. Lester, Mountainside, N.J. This patent refers to a machine for filling and charging pressure containers having a valve end for charging and dispensing a liquid product and a volatile propellant, comprising a filling head having a main body, orifice means in said body through which the product and propellant are dispensed to a container, means for positioning a container with its valve end adjacent to said orifice, said filling head body having a small feed chamber adjacent to said orifice means and a plurality of supply chambers in communication with said small feed chamber, valve means associated with each of said supply chambers for controlling the flow of fluid between each supply chamber and said small feed chamber, means for supplying the liquid product under pressure to one of said supply chambers, means for supplying the propellant under pressure to another of said supply chambers, means for successively actuating the valve means of said supply chambers, said small feed chamber being of cylindrical shape and leading to said orifice means, said supply chambers nested about and converging toward the feed chamber, said supply chambers further extending radially and at an inclined angle to the axis of said feed chamber.

No. 2,802,772. Aerosol Compositions; Bomb, and Process for Treating Flock of Chickens, patented by John R. Elder, Jr., Plainfield, N. J., assignor to Merck & Co., Rahway, N. J. This patent teaches a process for treating flocks of chickens having respiratory infections which comprises releasing to the atmosphere surrounding the chickens a composition under pressure greater than atmospheric comprising finely divided particles of an antibiotic selected from the group consisting of streptomycin, dihydrostreptomycin and salts thereof wherein all of the particles are substantially below ten microns in size and a non-toxic pressure generating propellant thereby widely dispersing the finely divided particles of antibiotic in the atmosphere.

No. 2,802,696. Spray Cap and Bottle, patented by Franco Galeazzi, Milan, Italy. Described as a bottle adapted to contain liquid under pressure and having an integral neck portion on which a spray cap is fitted for sealing the bottle while dispensing the liquid from the bottle, said spray cap including an inwardly pressable solid needle and valve unit disposed within the outer end portion of the neck por-

tion; means of sealing the bottle until the needle is initially pressed and comprising a sealing member having concentric, radially spaced inner and outer walls adapted to clamp on the inside and outside of the neck portion and connected at their outer ends by a flat, annular wall overlying the outer end of the neck portion and underlying the cap, said inner wall terminating in a closed coaxially reduced thin walled rigid, centrally disposed end which underlies the inner end of the needle and is adapted to be perforated thereby when the needle is initially pressed, said needle having an inner pointed end which is housed within the end until it is initially pressed to perforate the end and the tube fitted on and supported by the rigid end of the inner wall and extending through the neck portion to the interior of the bottle.

No. 2,802,788. Cleaning Composition for Automotive Cooling Systems, patented by Marcellus T. Flaxman, Whittier, Calif., assignor to Wilco Co., Los Angeles. The patent claims a cleaning solution for automotive cooling systems consisting essentially of water containing about 2% to 4% of a cleaning composition dissolved therein, the solution having a pH between about 7.0 and about 7.5, the composition consisting essentially of: about 15% to 18% of a salt of ethylene diamine tetraacetic acid; about 60% of an alkali metal tripolyphosphate; about 20% of an alkali metal sulfite; and about 2% to 4% of mixed mono- and di-oleic acid esters of polyoxyethylene glycol of about 200 to about 1,000 molecular weight, each of the specified percentages being on a percent-by-weight basis.

No. 2,802,848. Soap-Making and Bleaching Process, patented by Norman Albert Hurt, Lymm, England, assignor to Lever Brothers Co., New York. This patent teaches a process of preparing light-colored soaps which includes the steps of contacting a glyceride oil containing free fatty acid with an alkali metal chlorite, saponifying the chlorite-treated oil with alkali and bleaching the resultant soap with from about 0.04% to about 3% of an alkali metal hypochlorite based on the total weight of chlorite-treated oil.

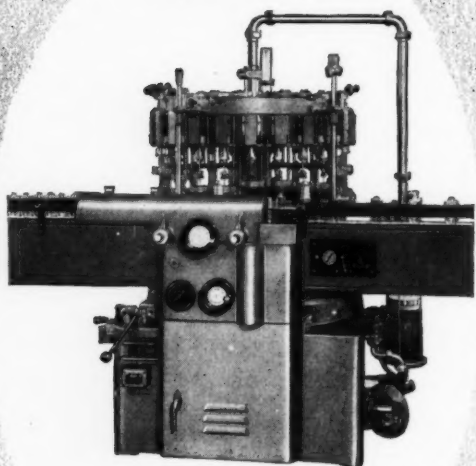
No. 2,804,172. Soap Deaeration, patented by Leopold Sender, Philadelphia, assignor to Sharples Corp. This invention deals with a process for deaerating soap having air entrained therein as a discontinuous phase which comprises subjecting said soap in molten condition and in attenuated form to reduced pressure in an enclosure to liberate air therefrom, introducing steam into and passing said steam through said enclosure in contact with the surface only of said soap for sweeping air liberated from said soap from said enclosure, and regulating the temperature of said soap and the pressure within said enclosure to control the water content of said soap.

No. 2,803,383. Wire Holder for Pressure Actuated Canisters, patented by Benjamin Dickman and Max Dickman, Philadelphia. The inventors claim an all-wire holder and actuator for

(Continued on Page 177)

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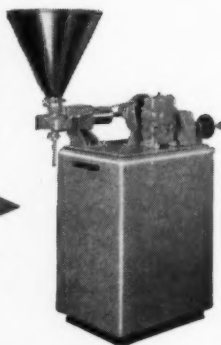
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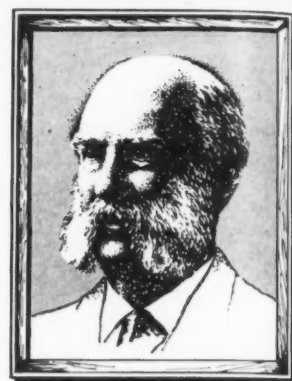
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Excerpts

From

*The Chemical
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James Mason Crafts
(1839-1917)

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In Cleveland:
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Products and PROCESSES

Corrosion Inhibitor

Triethylammonium phosphate "802" is being offered by Beacon Chemical Industries, Inc., Cambridge, Mass., as a corrosion inhibitor in automotive and other closed systems. It is also suggested as an ingredient of water soluble corrosion inhibitors, detergents, paint removers, and other specialties.

The product is a yellowish, viscous liquid, soluble in water, alcohol, glycerine, glycols, etc. Used as an additive to coolants it is said to inhibit rust formation in automobiles and hot water systems.

Triethylammonium phosphate "802" comes in five, 30, and 55 gallon drums and in tank cars. Performance data and other information are available from Beacon at 33 Richdale, Cambridge 40, Mass.

Metasilicate in Soap

Sodium metasilicate is an efficient builder for soap and used as such in laundry establishments, treating mostly cotton, wool and linen. Metasilicate is now recommended also for use on "Dacron". An overnight soak at room temperature or a 30 to 40 minute soak at 130 to 140°F. in a 10 to 15 per cent solution will remove the heavy soil on cuffs and collars of men's shirts. The garment should then be rinsed, scrubbed as may be needed with bar soap, and washed as usual. The same technique is said to be effective on cotton.

The majority of metal cleaning compounds incorporate sodium metasilicate. Because it is a strongly buffered salt, the pH of a metasilicate bath remains at a high fixed level until nearly all of the alkali is neutralized. In other words, metasilicate solutions retain their efficiency close to the point of exhaustion.

Unlike other detergent alkalies, sodium metasilicate does not corrode aluminum, tin, zinc, or other sensitive materials, if used at

ordinary washing concentrations. It is therefore specified in detergent mixtures intended for use in dairies, packing houses, canneries and other industries utilizing aluminum and tin equipment. *Silicate P's & Q's*, September 1957, published by Philadelphia Quartz Co., Philadelphia 6.

Germicidal Soap

The addition of a specified thiuram sulfide to soap or synthetic detergents results in a product having antibacterial properties. The synthetic detergent may be an anionic or nonionic. Until recently it was assumed that the sulfur bridge of the thiuram sulfide had to contain from two to four sulfur atoms. It has now been found that the thiuram sulfides in detergent compositions may be replaced wholly or in part by a thiuram sulfide containing five or six sulfur atoms in the bridge of the compound.

In the quantities employed in detergent compositions these compounds have been found to be non-toxic and non-irritating. They are compatible with the usual detergent additives such as carbonates, silicates, phosphates, perfumes or opacifiers. Addition of thiuram sulfide ranging from 0.2 to two per cent by weight is suggested for best results. (British patent No. 770,747. (1957). to Unilever, Ltd., Port Sunlight).

A further improvement in soaps formulated with thiuram disulfide consists of adding a stabilizing compound. When exposed to high temperatures for long periods or when stored for a long time even at ordinary temperatures, thiuram disulfides show a tendency to decompose in soap compositions. This causes unpleasant odors. By incorporating an acidic stabilizing compound which acts as an inhibitor and eliminates free alkali in such soap products, undesirable changes may be avoided. The sta-

bilizer may be a per compound such as sodium pyrophosphate peroxide, sodium persulfate, perborate, percarbonate, also lauryl peroxide. Amounts of stabilizing compounds should range between one half to two per cent to be effective in preventing odor formation and staining. (British patent 766,401, 1957, Unilever.)

Hexachlorophene in Soap

The presence of a phenol based deodorant in soap can be ascertained directly. A few drops of a four per cent solution of 2,6-dibromoquinine chlorimide in alcohol, added to a weak alkaline solution of hexachlorophene ("G-11" or hexachlorodioxidiphenyl-methane) produces a blue color. pH of the hexachlorophene solution should be nine to 9.6.

As an alternative, 0.3 cc of a two per cent solution of 1-phenyl-2,3-dimethyl-4-amino-pyrazolone and one cc of a two per cent solution of potassium ferricyanide can be added to five to 50 cc of hexachlorophene solution to produce orange to cherry colored reaction. This is an extremely sensitive phenol reaction and suitable also for colorimetric determinations of phenol contents ranging from 0.02 to 0.2 mg/per cent.

Both tests can be used to determine immediately the presence of a phenolic compound in water soluble products such as soap, shave creams, deodorant sticks, cleansers, etc. Previous separation of the deodorant from the product is not necessary.

However if the phenolic additive is to be identified as hexachlorophene to the exclusion of other phenolics it must be separated from the product by solvent extraction. Its melting point must be determined. Hexachlorophene is a white, almost odorless powder with melting point at 161°C. Presence of 52.31 per cent chlorine in organically bound form must be shown by the usual methods. Abstracted from an article by E. Benk, *Seifen-Oele-Fette-Wachse*, No. 13, 1957, p. 377.

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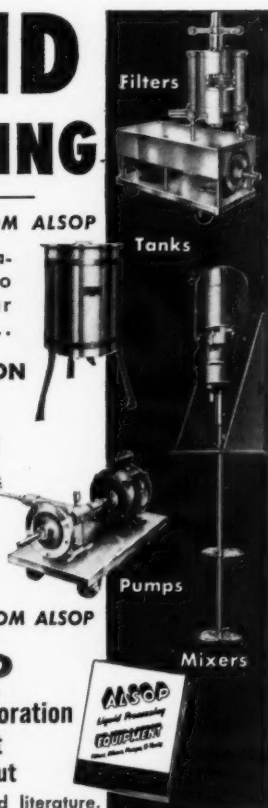
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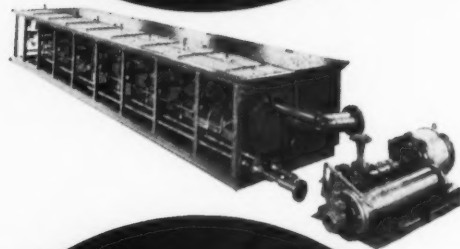
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PRODUCTION *Clinic*

By **E. G. Thomssen, Ph.D.**

THE suggestion that psychologist be put on the factory pay roll would have met with surprise and possibly disdain even as recently as 10 years ago. Today, many firms use the services of a psychologist to assist in the solution of problems rooted in human relations. The psychologist serves not only in situations where a maladjustment is obvious and serious, but also in cases involving more subtle problems of human relations. Beyond this, and far more important in industry, is the utilization of psychological knowledge, and experience and skill to improve an employee's value to himself and his employer by determining the particular job for which he is best suited, happiest at and most efficient in.

Labor, or employee, relations are based on a multiplicity of individual relationships. If one accepts the usefulness of psychology or psychiatry in helping the individual, or family unit, in overcoming a particular problem of adjustment, it is only logical to accept its newer role in the multiple adjustments required for healthy industrial and employee relations.

With labor-management problems mounting and resulting in costly slow-downs and strikes, a growing number of companies is using the services of the psychologist. Larger corporations pioneered the idea and placed him on the pay roll as a human relations expert. Many small enterprises are retaining his services on a consultant basis.

Psychology is the systematic knowledge and investigation of the phenomena of consciousness, behavior, and adjustment to environment. Psychiatry is a branch of medicine dealing with mental disorders, both psychoses and neuroses. While a psychologist may be an



Dr. E. G. Thomssen

M.D., a psychiatrist is always a medical doctor. Obviously a psychiatrist may be doing work very similar to that of the psychologist. Either may be using psychoanalysis as a method of therapy, provided he has been trained as an analyst.

Since industry has found it good business to apply psychology to human relations problems, the demand for counselors with training in psychology has greatly increased. Colleges, accordingly, are acquainting their students in the field with the problems and techniques applicable or peculiar to life in industry. Conversely, future personnel officers and other students of management subjects are receiving training in psychology. A number of organizations employ teachers of psychology to hold seminars or courses for executives in the hope of avoiding or minimizing labor disputes.

Popularly speaking, psychology is the science of "what makes a person tick" and what makes him miss a beat or run amok. What can it do for industrial production?

First and foremost, it can help in the selection of suitable personnel. It can do so in two ways: by aptitude tests and by an informed guess as to how an in-

dividual may react to certain physical conditions and emotional climates. Aptitude testing combines applied psychology and statistical methods. If its rather impersonal approach is mitigated by the informed guess it is a most useful tool which has found wide acceptance not only in industry but in organizations of all types.

Next, it can help to remedy errors in personnel placement. If an operator's performance lags for obscure reasons, if he shows signs of unwarranted fatigue or stress, the psychologically trained observer may be able to determine whether he would perform better at a different task or simply in different physical surroundings or with different associates. On the other hand personal problems and worries carried from private life into the factory may impair a person's working capacity and efficiency. Once the problem has been recognized it can often be solved with comparative ease.

If an individual appears disturbed and no tangible reason can be established for his distress the plant psychologist may be able to determine whether he should receive treatment to forestall or cure an emotional disorder.

Part of the psychologist's function is educational. By meetings and group discussions he may influence the employee's attitude toward his job, his employer, his immediate superior, and his colleagues. Most men prefer to work not only to earn their bread but like to feel that they are part of a team working toward an aim beyond the individual pay envelope. The psychologist can point to the company's aims, its place in the national economy, and to the department's role in the organization, thus giving the individual a sense of orientation and purpose. By personal interviews and group meetings the personal attitudes of one worker to another can be substantially improved. Animositities are mostly based on ignorance or unbelievably petty reasons, which



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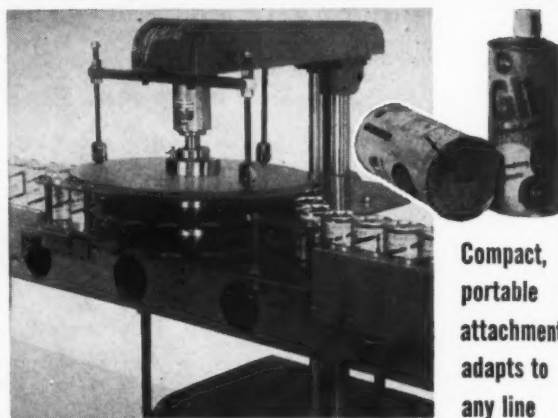


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SOAP and CHEMICAL SPECIALTIES

are inflated by continuous proximity. When analyzed, they frequently disappear.

But not all the work has to be done among the operatives. Productivity may be impaired by a supervisor or foreman who lacks leadership qualities, who is nervous, who is emotionally unfit to get along with others. The psychologist may have to use the educational approach and if it fails may recommend his transfer to a job which does not require the qualities he lacks.

Man's mind has been compared to a flower. The same sunlight turns one flower red, the other blue. Just as the same stimulus produces different hues in different plants, so the identical stimulus may produce different responses in different individuals. A production head can hardly be expected to foresee the responses which his suggestions may evoke in the members of his labor force. A trained psychologist may be able to give him sound advice.

pH Buffer Kit

ANALYTICAL Measurements, Inc., Chatham, N. J., offer an inexpensive pH buffer kit. It consists of three 500 ml. polyethylene dispensers and nine packages of buffered salts sealed in moisture proof packages. Additional envelopes of buffers may be had in packages of six, if desired. Analyses are rapidly and easily made by using the kit. The carton in which the buffer kit is shipped may be readily converted into a handy storage unit. It is portable, rugged and easily operated.

Salt Desolver

USERS of salt will find it advantageous to obtain more information from International Salt Company, Scranton, Pa., on its salt desolver in plastic or non-corrosive metal. Storage tanks are also available. Pipes and couplings are cemented in with a new resin cement which makes a lasting bond between connection and tank walls. International also are ready to

advise on greater efficiency and economy regarding the uses of salt.

Polyethylene Conveyors

DRACCO Corp., Cleveland, offers a polyethylene air conveyor for chemicals. They claim that their system is self-changing, has no metal to metal contact and that all foreign matter is kept out of the conveyor if this is desired. The company also makes dust control equipment.

Automatic Batch Feeder

WEIGHING and Control Components Co., Hatboro, Pa., feature an automatic batch system which may be used for solids or liquids. The machine comes in a full range of sizes and has semi-automatic or fully automatic controls. Either electric or pneumatic operation is possible and flexibility and economy are stressed. Descriptive literature is available upon written request.

Controlled Emulsifier

CROWN ZELLERBACH Corp., Chemical Division, Camas, Wash., is offering an emulsifier capable of forming stable emulsions which may be broken easily and clearly by reducing the pH. Derived from lignin, the product is marketed as "Orzan P". It comes in dry powder form. Among materials which may be emulsified in this manner are fatty acids, mineral oil, and petrolatum.

Silicone Barrier Creams

SILICONE based skin protective creams can be formulated without soap type emulsifiers which may themselves be irritants. Atlas Powder Co., Wilmington, Del., has issued a bulletin telling how to formulate creams of this type.

New Sole Sequestrant

Commercial availability of a new chelating agent was announced last month by Sole Chemical Corp., Chicago. "Sole-Onic CH-50" is suggested for use in caustic soaking and washing solutions to prevent deposition of calcium and mag-

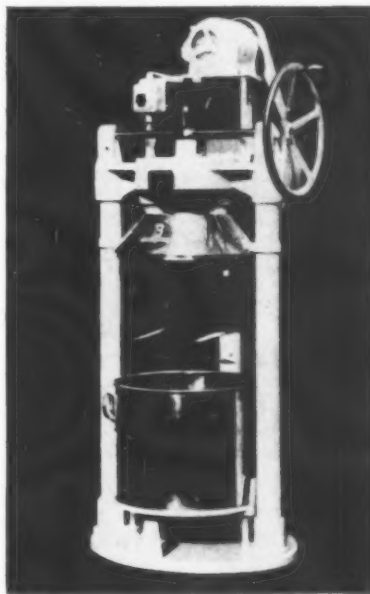
nesium salts in bottle washing, steel drum cleaning, and rust removing operations. The product is said to form its own water soluble sodium salts with polyvalent metals in alkaline solutions, thereby preventing precipitation of the metallic hydroxides.

Information on properties and use dilutions of "Sole-Onic CH-50" for bottle washing, label removal and other applications is available in technical bulletin No. 557-1, published by Sole Chemical Corp., 27 East Monroe Street, Chicago 3.

New Mixing Machine

A new mixing machine designed to handle liquids, powders and pastes was developed recently by Franz Bernard Co., Frankfurt, West Germany. Called "Bernard Rapid Mixer," the machine is distributed throughout the eastern portion of the United States by Speedex Equipment Co., 45-54 48th St., Woodside 77, N. Y.

The unit has a 21-gallon capacity and features either coated tin or stainless steel mixing arms. It is equipped with a one and one-half hp. motor, measures six feet in height and weighs 484 pounds. Larger models will be available in the near future, according to the manufacturer.





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Toronto, Ont.

Drying Plant

(From Page 167)

incorporates centrifugal atomization, feed by gravity or low pressure pump, and is particularly suitable for heat sensitive products. This model is made by the Kestner Evaporator and Engineering Co.

Rotary driers and adsorption drying systems receive attention. In rotary units the moisture is removed by a stream of conditioned air. But the particles, instead of being sprayed into the air stream, are rotated in cylinders through which the air is passing.

Patents

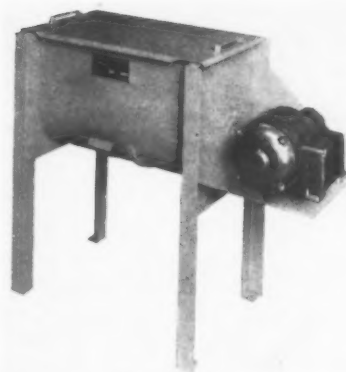
(From Page 169)

canisters containing fluids under pressure that have a discharge orifice normally closed by an element that is positioned yielding outwardly, comprising a member having a reversely looped depending handle portion, and a forwardly extending substantially J-shaped hook portion adapted to yieldingly receive in its hooked end the discharge end of a pressure canis-

ter, in combination with an initially separate relatively movable substantially L-shaped member pivotally connected adjacent to its angular mid-section to the forwardly extending portion of said first member, and itself comprising a depending manually engageable portion generally paralleling said handle portion, and a forwardly extending terminal portion in engagement with the closure element of such canister, so that shifting of said trigger portion towards said handle portion causes said forward portion to depress such closure element and permit the escape of the canister's contents.

No. 2,802,770. 2-Alkyl-3,4,5,6-Tetrahydropyrimidine Nitrate and Fungicidal Composition thereof, patented by Carl M. Monroe and William E. Rader, Modesto, Calif., and William J. Raab, Haworth, N. J., assignors to Shell Development Co., Emeryville, Calif. A fungicidal composition is covered comprising 2-heptadecyl-4,4,6-trimethyl-3,4,5,6-tetrahydropyrimidine nitrate dissolved in an inert organic solvent therefor and a surface active agent adapted to disperse the solution in water.

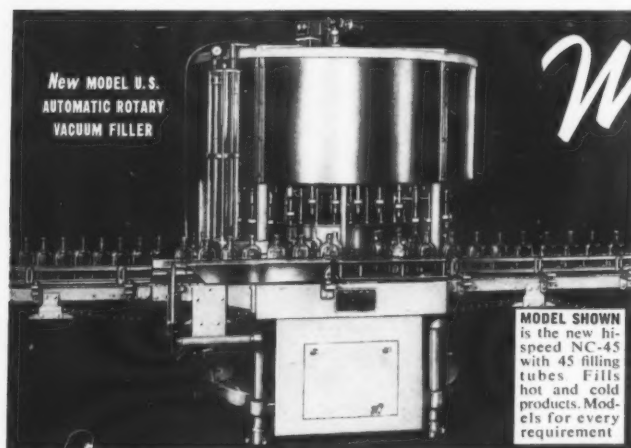
No. 2,802,769. Insecticides, patented by Frederick G. Van Stryk and Marshall Kulka, Guelph, Ont., Canada, assignors to United States Rubber Co., New York. The invention claims an insecticidal composition comprising a chloro-beta-thiocyanatoethylsulfide and a surface active dispersing agent.



New Rapids Mixer

A new mixer designed for use in the laboratory or in actual production was introduced recently by Rapids Machinery Co., Marion, Ia. Called "Marion" mixer, the unit features cross-blending mixing action and has a capacity of two cubic feet, or about 50 pounds.

The machine is available in either steel or stainless steel models and is equipped with a 3/4 hp., 1P, gearhead motor, angle iron legs, and a sponge rubber-gasketed metal cover.



New Model U.S.
AUTOMATIC ROTARY
VACUUM FILLER

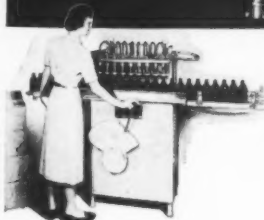
MODEL SHOWN
is the new hi-
speed NC-45
with 45 filling
tubes. Fills
hot and cold
products. Mod-
els for every
requirement

Why it Does Everything So Well

"U. S. AUTOMATIC ROTARY VACUUM FILLER" is the name of a great filling principle. It is built in a series of Basic Models that differ in size and capacity. The Model chosen is custom-engineered to meet the user's specific requirements. Thus, the user gets a universally endorsed long-life machine, that is custom-built to his entire needs and insures dependable operation at minimum cost.

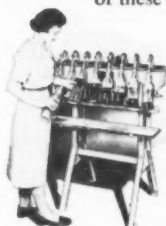
FORTY-FIVE YEARS OF SPECIALIZATION have perpetuated U. S. leadership in the filling of liquid products. Today, the most famous brands in pharmaceuticals, wines, liquors, foods, condiments, household and industrial chemicals, waxes, and detergents pass through the filling tubes of these great machines.

Whatever your liquid filling needs may be, write for engineering recommendations or request the "Rotary Filler Bulletin."



**U. S. MODEL B-2
VACUUM FILLER**
Continuous production, filling two containers at a time. Automatic product supply. For all liquids and semi-liquids. Portable. Write for Bulletin B-2.

U. S. MODEL B-49 STRAIGHT-LINE VACUUM FILLER. Most automatic one-man filler. With or without discharge conveyor. For all liquids. Changeover for all types containers. Contact parts stainless steel, or plastics. Get Bulletin B-49.



U. S. SIPHON FILLER
For all liquids, foamy products or products that do not permit agitation. Stainless steel tubes, acid resistant glass lined tank. Write for the Siphon Bulletin.



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SPECIALISTS IN LIQUID FILLING AND CONTAINER CLEANING EQUIPMENT



The skin's best friend

DEHYDAG WAX SX

the outstanding self-emulsifying
component for oil-in-water emulsions,
ideal for the preparation of cosmetic
creams and pharmaceutical ointments.

DEHYDAG WAX SX



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Drying Plant (From Page 167)

incorporates centrifugal atomization, feed by gravity or low pressure pump, and is particularly suitable for heat sensitive products. This model is made by the Kestner Evaporator and Engineering Co.

Rotary driers and adsorption drying systems receive attention. In rotary units the moisture is removed by a stream of conditioned air. But the particles, instead of being sprayed into the air stream, are rotated in cylinders through which the air is passing.

Patents (From Page 169)

canisters containing fluids under pressure that have a discharge orifice normally closed by an element that is positioned yielding outwardly, comprising a member having a reversely looped depending handle portion, and a forwardly extending substantially J-shaped hook portion adapted to yieldingly receive in its hooked end the discharge end of a pressure canis-

ter, in combination with an initially separate relatively movable substantially L-shaped member pivotally connected adjacent to its angular mid-section to the forwardly extending portion of said first member, and itself comprising a depending manually engageable portion generally paralleling said handle portion, and a forwardly extending terminal portion in engagement with the closure element of such canister, so that shifting of said trigger portion towards said handle portion causes said forward portion to depress such closure element and permit the escape of the canister's contents.

No. 2,802,770. 2-Alkyl-3,4,5,6-Tetrahydropyrimidine Nitrate and Fungicidal Composition thereof, patented by Carl M. Monroe and William E. Rader, Modesto, Calif., and William J. Raab, Haworth, N. J., assignors to Shell Development Co., Emeryville, Calif. A fungicidal composition is covered comprising 2-heptadecyl-4,4,6-trimethyl-3,4,5,6-tetrahydropyrimidine nitrate dissolved in an inert organic solvent therefor and a surface active agent adapted to disperse the solution in water.

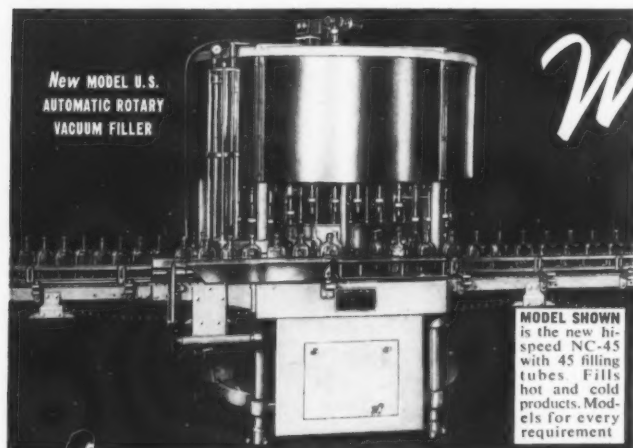
No. 2,802,769. Insecticides, patented by Frederick G. Van Stryk and Marshall Kulka, Guelph, Ont., Canada, assignors to United States Rubber Co., New York. The invention claims an insecticidal composition comprising a chloro-beta-thiocyanatoethylsulfide and a surface active dispersing agent.



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The machine is available in either steel or stainless steel models and is equipped with a $\frac{3}{4}$ hp., 1P, gearhead motor, angle iron legs, and a sponge rubber-gasketed metal cover.

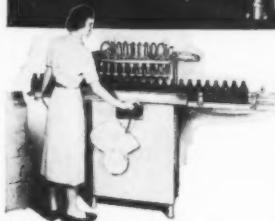


Why it Does Everything So Well

"U. S. AUTOMATIC ROTARY VACUUM FILLER" is the name of a great filling principle. It is built in a series of Basic Models that differ in size and capacity. The Model chosen is custom-engineered to meet the user's specific requirements. Thus, the user gets a universally endorsed long-life machine, that is custom-built to his entire needs and insures dependable operation at minimum cost.

FORTY-FIVE YEARS OF SPECIALIZATION have perpetuated U. S. leadership in the filling of liquid products. Today, the most famous brands in pharmaceuticals, wines, liquors, foods, condiments, household and industrial chemicals, waxes, and detergents pass through the filling tubes of these great machines.

Whatever your liquid filling needs may be, write for engineering recommendations or request the "Rotary Filler Bulletin."



U. S. MODEL B-49 STRAIGHT-LINE VACUUM FILLER. Most automatic one-man filler. With or without discharge conveyor. For all liquids. Changeover for all types containers. Contact parts stainless steel, or plastics. Get Bulletin B-49.



U. S. MODEL B-2 VACUUM FILLER
Continuous production, filling two containers at a time. Automatic product supply. For all containers up to $4\frac{1}{2}$ " dia. All liquids and semi-liquids. Portable. Write for Bulletin B-2.



U. S. SIPHON FILLER
For all liquids, foamy products or products that do not permit agitation. Stainless steel tubes, acid resistant glass lined tank. Write for the Siphon Bulletin.



U. S. BOTTLERS MACHINERY CO.

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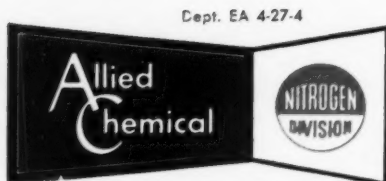
SPECIALISTS IN LIQUID FILLING AND CONTAINER CLEANING EQUIPMENT



glass-lined tanks protect the purity of Allied's
ETHANOLAMINES

You are looking down the manhole of a 16,000-gallon, glass-lined Pfaudler storage tank about to be filled with an ethanolamine from Allied. Why glass-lined? To protect the excellent color and high purity of the chemical as it comes from Allied's stainless steel processing equipment.

Allied makes ethanolamines which more than meet the highest industry specifications, and then makes certain they will remain uncontaminated through storage and shipment to your own facilities. Phone or write for samples, quotations, literature and technical service — all without obligation.



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SOAP PLANT *Observer*

By John W. McCutcheon

ACHEMICAL specialties plant producing various cleaning compounds at the approximate rate of 50 tons a day should be engineered to receive over 250 tons of raw materials a week. Last month we assumed that such a plant would receive most of its bulk raw materials by rail but that provision should be made for up to 50 per cent receipts by truck. Other raw materials would arrive by truck. About 80 per cent of the outgoing product shipments would be made by truck, 20 per cent by rail. On most items, delivery was to be 24 hours by truck and three days by rail. Raw materials shipped by rail would arrive in hopper cars; those shipped by truck, in drums, bags, and "Tote" bins.

Calculated on this basis, the plant should receive about 200 tons of raw materials a week in six to eight cars. Alternative provision should be made to receive part of this material (up to 100 tons) by truck. This would call for eight to 12 truck loads per week. Two car spots and two truck spots would handle this assignment comfortably.

One car spot should be added for the 20 per cent of total product to be shipped out by rail, which represents about one car a week. The remaining 80 per cent of product would be shipped out in 20 to 40 trucks a week and in numerous small pickups. Four truck spots should provide ample facilities for product shipment. These would be additional to the two truck spots set up for raw material receipts.

For convenient materials handling the plant should be laid out, if possible, so that the railroad spur would enter along one side with truck bays occupying the other side. The truck raw material spots might be cross connected to two railroad spots through a common screw conveyor system. Such



an arrangement would permit either cars or trucks to be unloaded into the same storage bins.

Let us suppose that the raw materials storage bins are located on the third floor and the mixing operation on the second. The material from the bins on the upper floor could then be fed by gravity to the mixers on the floor below. This could be accomplished either through screw conveyors emptying through scale tanks or by a scale tank overhead rail transfer system. With mixing located on the second floor, filling and shipping operations would be on the first. Packaging raw materials arriving by truck or rail could be stored on the third floor and handled by a conveyor of the reversible escalator type.

These preliminary considerations must receive full attention before the next step in planning can be safely taken. Each idea must be regarded not only on its own merit but as part of an efficient pattern. The next question may be should the truck bays be arranged so that the vehicles enter the building, or come into a platform? Will the building be rectangular, square, or L-shaped? Answers are frequently influenced by factors other than process engineering. Size of the site, position of the siding, nature of the soil, architectural wishes of

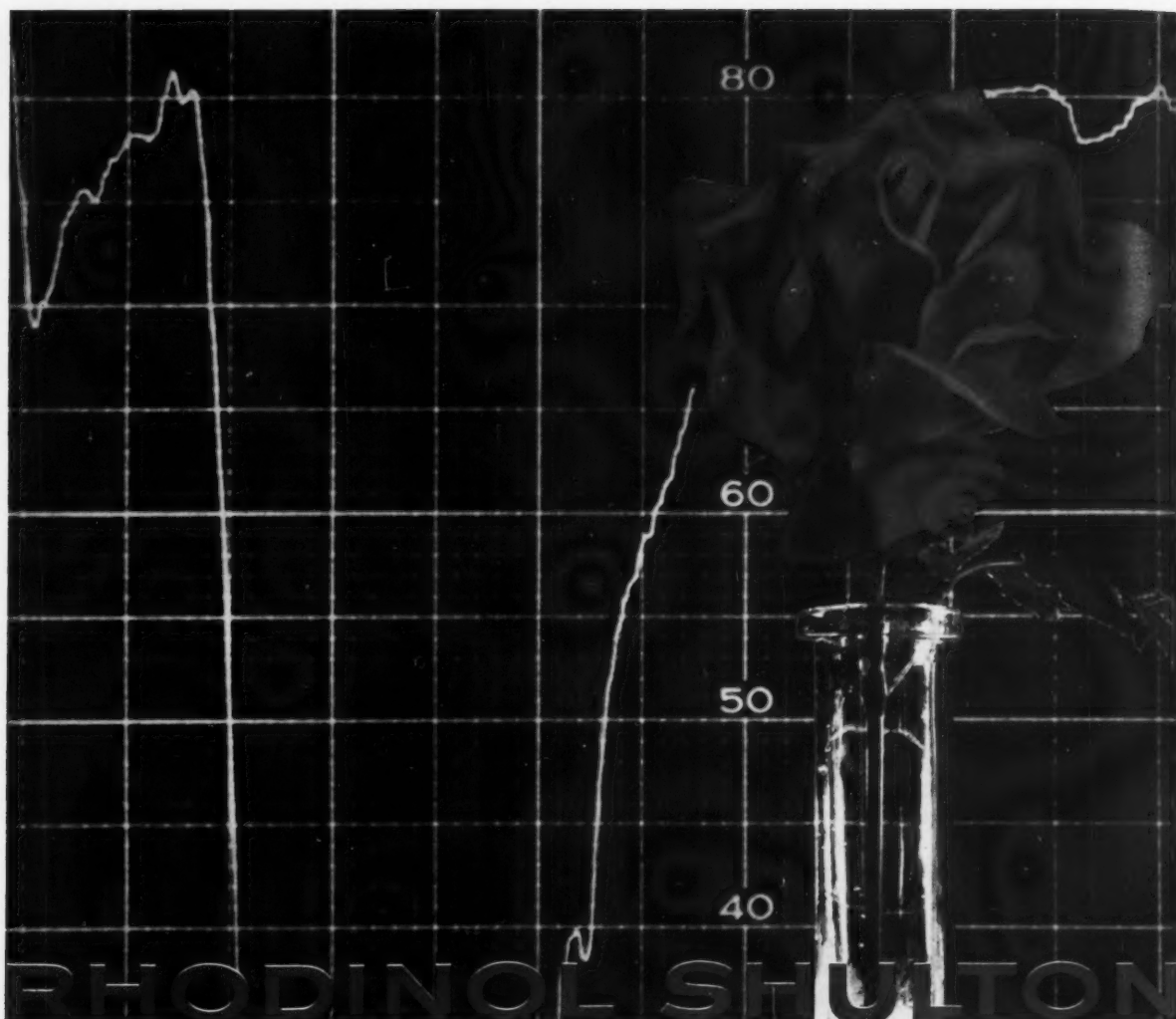
the owner, are among the facts which must be ascertained and fitted into the general plan. The owner may specify very minutely what type of office space he wants and which direction it should face. The ground on which one is building may necessitate the spreading of storage areas to avoid overloading. The railroad may have to enter the plant at some unusual angle. This would call for the rail entrance into the plant to be built with a certain curvature.

However, unusual design should be accepted only when the reasons for it are very sound. Initial plans should be made on fairly well established principles, such as set forth above. If necessary, they can be modified to meet the individual situation. But every aspect of plant design must be kept functional.

An example of non-functional thinking is offered by a modern show plant built by a major specialties firm in the Midwest. Here architectural design transcended the functional point of view: Three legged chairs in the office were a source of complications until the office manager could find girls who could ride them. Esthetic glass tubing used as windows was not weathertight, and a set of normal windows had to be built around the novelty windows to keep the rain out. Sometimes, an idea can carry one away!

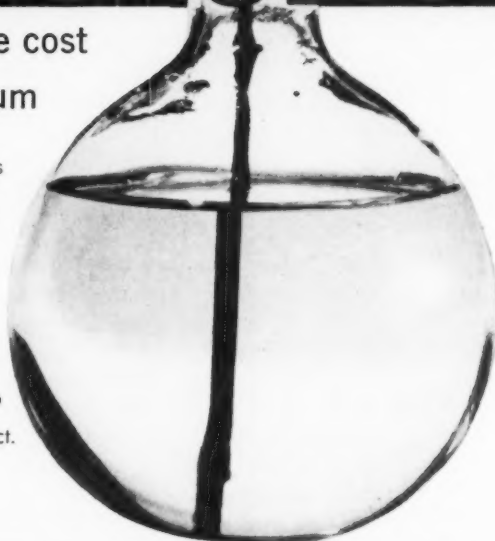
Mixing equipment, filling machines, fork trucks, and conveyors constitute the equipment of a chemical specialties plant such as we have in mind. We shall confine ourselves here to a brief discussion of mixers.

About 80 per cent of our hypothetical plant's output consists of an institutional dishwashing compound and an institutional cleaner. At least two 15-ton units to handle these items should be installed. These should maintain versatility while being sufficiently oversize to allow for expansion. By installing two large mixers rather than a battery of small units, labor costs are reduced, a greater degree



superb rose effects at half the cost
of rhodinol ex-geranium

Rhodinol Shulton is superior to ordinary rhodinols in its freshness effect... its blending power... its compatibility with the finest perfume materials... and its stability in soap. • Shulton's advanced research combined with the perfumer's artistry makes possible this rhodinol of finest quality and constant character. And you can rely on the quality of Rhodinol Shulton because it is free of impurities, free of batch-to-batch variations. • Specify Rhodinol Shulton to procure these superb rose effects at only half the cost you might expect.



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DIVISION OF SHULTON, INC., 630 FIFTH AVE., NEW YORK 20, N. Y., CIRCLE 5-6263

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RHODINOL SHULTON • NITRO MUSKS • VANILLIN, U.S.P. • VANITROPE® ... Market tested in successful products

of automation may be attained and product uniformity is improved.

The smaller items of production are a concrete floor cleaner, a glass cleaner, and an acid cleaner for steel. To compound these products, two two-ton units and a liquid mixer are called for. As far as possible, all materials should be weighed and weight scale recordings kept on file. Liquids may be metered if constant specific gravity is attainable. Otherwise they must be weighed directly.

In addition to the factors of

process engineering, plans must take future growth into account. Expansion of the plant itself and product diversification must be allowed for. For example, buildings should never be placed so close to the edge of the site that the addition of a new wing becomes impossible. On the mixer floor sufficient space should be left to permit installation of a duplicate operation. Storage tanks should be placed to allow addition of extra tanks.

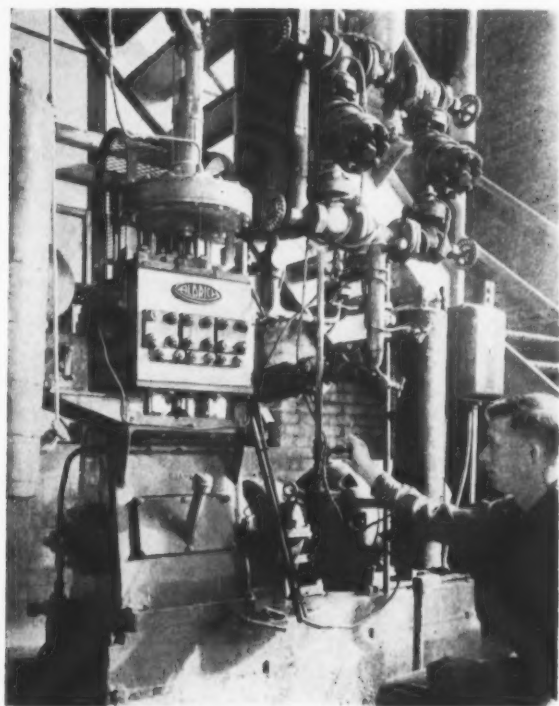
It is well to look ahead in

Pumps Cut Emery's Costs

Maintenance cost has been cut at the fatty acid plant of Emery Industries, Inc., Cincinnati, by the installation of triplex direct flow pumps for the continuous handling of hot fats and greases.

Emery's raw materials include coconut, palm, and other vegetable oils and animal fats, tallow and grease. The fatty acids are heated to 150 to 200°F and pumped into three 60 to 80 feet high hydrolysis columns, where they meet a counter current stream of hot water at pressures exceeding 700 psi.

The round-the-clock handling of the hot fats originally led to frequent valve refacing and packing replacement and to excessive plunger wear. In 1948 Emery decided to install two, three-inch stroke triplex pumps by Aldrich Pump Co., Allentown, Pa., which proved equal to the task. Two additional Aldrich reciprocating triplex pumps have since been set up. Corrosion resistant valves have reduced the need for refacing. Wear of the entire fluid end is minimized by stainless alloy construction of all parts.



Triplex direct flow pumps by Aldrich supply fatty acids to hydrolysis pressure columns at Emery Industries plant in Cincinnati, Ohio.

planning a factory and to consider the finer points of plant engineering before it is too late.

* * *

"IF IT'S worth saying it's worth writing." On a visit to a duPont plant the writer noted this line at the top of the firm's memorandum pads. No doubt this idea has merit. Duplicating letters, data sheets, sales slips, etc. is now common practice. Many devices for this purpose have been described in this column in the past. A new duplicator which works off a micro film enlarger has now been introduced by Minnesota Mining & Manufacturing Co.'s duplicating products division. This reader-printer projects microfilm on a viewing screen for reading. At the press of a button the device then makes a ready-to-use print (about eight inches by 11 inches) within ten seconds.

—★—

New Kelite Detergent

A new all-purpose, concentrated, powdered detergent was developed recently by Kelite Corp., Berkeley Heights, N. J. Called "Kelite A-P-C," the product may be used on floors, processing equipment, tile, painted surfaces and as a steam cleaning composition.

"Kelite A-P-C" has high sudsing properties, a maximum pH of 10.6, and is used in concentration of one-half ounce to four ounces to a gallon of water, at a temperature range of 70 to 140 degrees F. It is soluble in hot, cold, hard, soft or saline water and is packaged in 140-pound kegs.

—★—

New Emulsol Bulletin

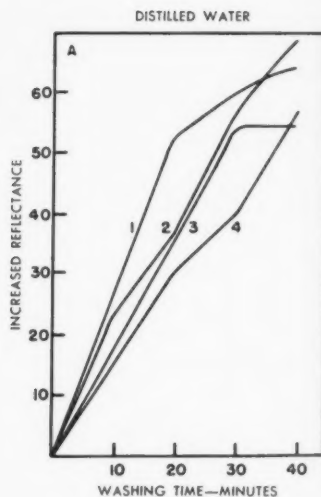
A new technical bulletin describing its "Emcol P10-59," alkyl aryl sulfonate, was published recently by Emulsol Chemical Corp., a Division of Witco Chemical Co., Chicago. The booklet provides full details on the product's detergent and emulsifying applications when used for dry cleaning and for emulsion degreasers where solvent and water cleaning is done on metal parts or motor blocks.



WORKING ON A LIQUID DETERGENT?

Here's a choice of Kasil Potassium Silicates to improve cleansing power. Kasil Potassium Silicates have good detergent action—you can increase sudsing and improve soil suspension properties. The chart is based on a study to measure the speed and efficiency of potassium silicates in removing soil.

If you need a sodium-free silicate, let us suggest a Kasil for your own experiments. One of Kasil Potassium Silicates can fit your formulas for a liquid detergent or a semi-paste soap.



Removal of graphite soil at 60° C. with 0.65% detergent consisting of 80% potash soap and 20% of a builder. (1) Kasil #1, (2) Kasil #6, (3) potassium carbonate, (4) soap alone.

PQ SOLUBLE SILICATES



PHILADELPHIA QUARTZ COMPANY

1152 Public Ledger Building, Philadelphia 6, Pa.

Associates: Philadelphia Quartz Co. of Calif., Berkeley & Los Angeles, Calif., Tacoma, Wash.; National Silicates Limited, Toronto, Canada
Distributors in over 65 cities

PQ WORKS: ANDERSON, IND., BALTIMORE, MD., BUFFALO, N. Y. CHESTER, PA., JEFFERSONVILLE, IND., KANSAS CITY, KANS., RAHWAY, N. J., ST. LOUIS, MO., UTICA, ILL.

News...

PEOPLE • PRODUCTS • PLANTS

Prince Heads Armour

* * *

New Colgate Department

* * *

FTC Cites Enden Shampoo

* * *

Comet Cleanser Kosher

Vincent P. Brunelli, newly elected vice-president of Chemway Corp., Mountainview, N. J., also has been chosen as president of a newly organized household products division. The new division merges the company's horticultural subsidiary, Carac Corp., and Larvex Division.



Bubbles with a man-sized job to do

Removing the grit and grime from a well-traveled automobile requires a cleaner with muscles. Leading synthetic detergents compounded with Atlantic Ultrawets can be made rugged enough to leave a clean, streakless shine on cars and locomotives, gentle enough for feminine hands and the finest fabrics. This is so because each of the Ultrawets has been specifically designed to do its cleaning job better.

The Ultrawets are only one member of the Atlantic family of petrochemicals (so you see a miniature oil refinery in the picture). Many new and profitable uses for these versatile Atlantic petrochemicals are constantly being applied in cost-cutting processes, in the development of new products and the improvement of well-established brands. For further information on Atlantic petrochemicals and service, write or wire The Atlantic Refining Company, Dept. E-10, at the nearest office listed below.



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Providence
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In Canada: Naugatuck Chemicals
Division of Dominion Rubber
Company, Ltd.

In Europe: Atlantic Chemicals SAB,
Antwerp, Belgium

In South America: Atlantic Refining
Company of Brazil, Rio de Janeiro

News

New Armour President

William Wood Prince has been elected president of Armour & Co., Chicago, it was announced



William W. Prince

recently by Frederick E. Specht, board chairman. Formerly president of Union Stock Yard and Transit Co., Chicago, Mr. Prince resigned from that post last February to become vice-chairman of Armour. He has been a director of the company since 1950. A Princeton University graduate, Mr. Prince is 43 years old.

Victor Earnings Rise

Income and earnings of Victor Chemical Works, Chicago, increased substantially in the first half of 1957. Net income amounted to \$2,022,048, equal to share earnings of \$1.13, compared with \$1,839,301 and \$1.01 in the corresponding period of 1956. In the second 1957 quarter, Victor reported a net income of \$917,258, equal to share earnings of 51 cents. This compared with \$960,586 and 53 cents a year ago.

AOCS Short Courses

After an interruption of one year the American Oil Chemists' Society will resume its series of short courses, it was announced last month by Dr. Karl F. Mattil, chairman of the education commit-

tee. Present plans are for a course on soap and syndets to be held at Rutgers University next July. Foster D. Snell, head of Foster D. Snell, Inc., chemical and engineering consulting firm, will serve as general chairman of the program.

Fred G. Meyer Dies

Fred G. Meyer, 47, assistant treasurer of S. C. Johnson & Son, Inc., Racine, Wis., died Sept. 4 at St. Mary's Hospital, Rochester, Minn.

A native of Menominee, Mich., Mr. Meyer joined Johnson in 1938. In 1944 he was made assistant to the executive vice-president and two years later assistant to the sales manager. He was named auditor in 1947 and in 1949 was appointed office manager. He became assistant treasurer in 1953.

New Fatty Acid Derivative

Swift & Co., Hammond, Ind., recently announced a new fatty acid derivative for use as a surface active or wetting agent, emulsifier or corrosion inhibitor. Tradenamed "Akweons 674," the product is a dark reddish-brown liquid which pours easily at room temperature and is soluble in acidic, alkaline or neutral solutions.

FTC Cites Helene Curtis

The Federal Trade Commission has filed a complaint against Helene Curtis Industries, Inc., Chicago, charging the cosmetic firm with falsely representing its "Enden" shampoo in television advertisements. The F.T.C. said that Helene Curtis guaranteed that "Enden" would "end itching, flaking and scaling." The complaint states that the product will not cure dandruff nor have any other lasting effect because the condition will return if regular use is discontinued. A hearing is scheduled before an F.T.C. examiner in Washington, Oct. 14.

Karabatsos to Velsicol

Kimion T. Karabatsos has joined Velsicol Chemical Co., Chicago, as director of government re-



Kimion T. Karabatsos

lations, it was announced last month by John F. Kirk, vice-president. For the past two years, Mr. Karabatsos was director of legislative and special services for the National Agricultural Chemicals Association. Prior to joining NACA, he was administrative assistant to Rep. A. L. Miller of Nebraska, author of the Miller Pesticide Residue Amendment.

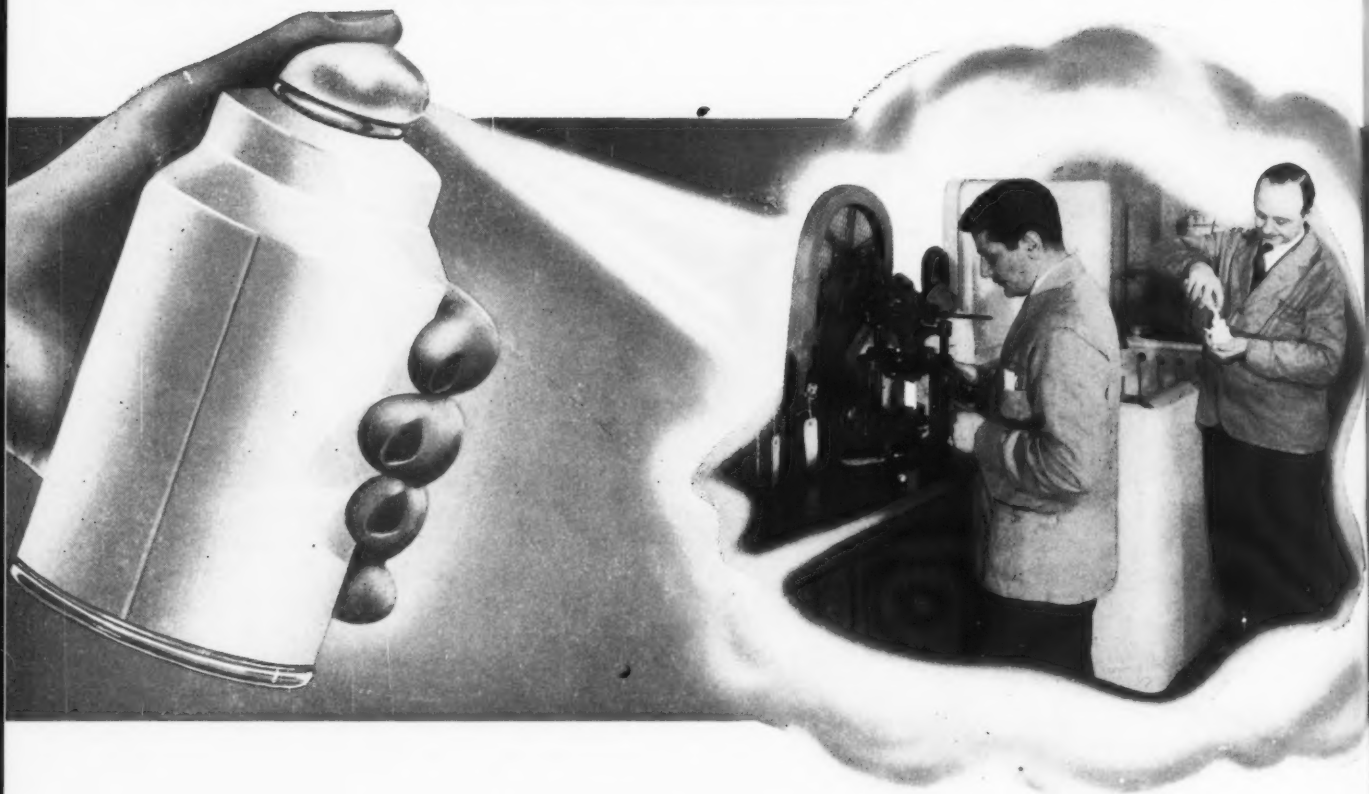
ASR Appoints Parkhurst

Appointment of Leslie E. Parkhurst as a vice-president of A.S.R. Products Corp., Staunton, Va., formerly American Safety Razor Corp., was announced last month. Mr. Parkhurst will remain as director of marketing, a post he has held since July, 1956. He joined the company in 1953. ASR manufactures soaps, cosmetics and a variety of shaving products.

New "Bab-O" Cleanser

B. T. Babbitt, Inc., New York, has added "7 Second Bab-O" to its line of household cleaners, it was announced last month. Said to be effective for dissolving grease and bleaching stains, the product

**Give your aerosol product
the advantage of a
GIVAUDAN CUSTOM-MADE FRAGRANCE**



The problems of compatibility, corrosion, solubility and fixation are especially complex in connection with odor selection for aerosols. Further, the choice of propellants and other ingredients, and the type of container all affect the performance of an aerosol fragrance, so that its selection becomes properly a matter for experts.

Such experts are ready to serve you at Givaudan's special Aerosol Research Laboratory. Our staff will welcome the opportunity to recommend, adapt, or "custom-make" a fragrance for your aerosol product which will give distinctive sales appeal and the utmost satisfaction under the particular conditions governing its formulation and use. We invite your inquiries.



Better perfume materials through

constant research and creative ability

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330 West 42nd Street • New York 36, N. Y.

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contains a chlorine additive and is claimed to eliminate rubbing and scrubbing. Introduction of new "7 Second Bab-O" will be backed by heavy newspaper advertising, plus radio spot announcements.

—★—

Field Heads New C-P Dept.

Formation of an associated products department was announced recently by Colgate-Palmolive Co., New York. The new department will be responsible for the company's activities in industrial sales, organic chemicals and future new products not associated with either the household products or toilet goods divisions. It will operate under the direction of Edward P. Field, Jr., for the past five years export sales manager of Colgate-Palmolive International, Inc.

Establishment of the new department marks the final phase of the firm's divisionalization program that began earlier this year with creation of two major divisions—household products and toilet goods. The majority of industrial products and organic chemicals grouped under the new department formerly were associated with the company's now defunct soap division. No personnel changes are contemplated in product groups now operating under the newly-formed department. R. O. Trowbridge remains as manager of industrial department, while John M. Nykiel continues as industrial sales manager of the industrial department.

Edward P. Field, Jr.



Cowles Names Ehrenreich

Appointment of Milton H. Ehrenreich as technical sales representative for Cowles Chemical Co.,



Milton H. Ehrenreich

Cleveland, was announced recently by W. J. Schleicher, manager of the laundry chemicals department. Mr. Ehrenreich will handle sales and services of the company's alkaline laundry detergents in Nevada and the San Francisco Bay area. For the past 13 years, he was in the laundry and drycleaning machinery business in Washington, D. C.

—★—

Heads New Chemway Unit

Vincent P. Brunelli has been appointed head of the newly-formed household products division of Chemway Corp., Mountain View, N. J., it was announced last month by Charles T. Silloway, president. Mr. Brunelli also was elected a vice-president of the company.

The new division merges the firm's horticultural subsidiary, Carac, with its Larvex and Myna Divisions. Larvex manufactures mothproofers, while Myna produces window cleaners. All three companies are located at Mountain View.

Mr. Silloway said that the name of the new division will be announced at a later date and that no new products were scheduled for introduction in the immediate future.

At the same time, Chemway announced that its Zonite Division

has been renamed Dunbar Laboratories. Jack T. Urban, formerly syndicate and department store manager of sales for Helene Curtis Industries, Inc., Chicago, has been appointed sales manager of Dunbar.

—★—

ASAE Elects Miss Booth

Miss Helen Booth, executive secretary of the Drug, Chemical & Allied Trades Section of the New York Board of Trade, was elected a director of the American Society of Association Executives at that organization's annual convention held last month in the Hotel Chase, St. Louis.

Miss Booth is the second woman in the association's 37-year history to be named a director. She has served as secretary of the DCAT since 1943. In June she was named a director of the Trade Association Executives of New York City.

—★—

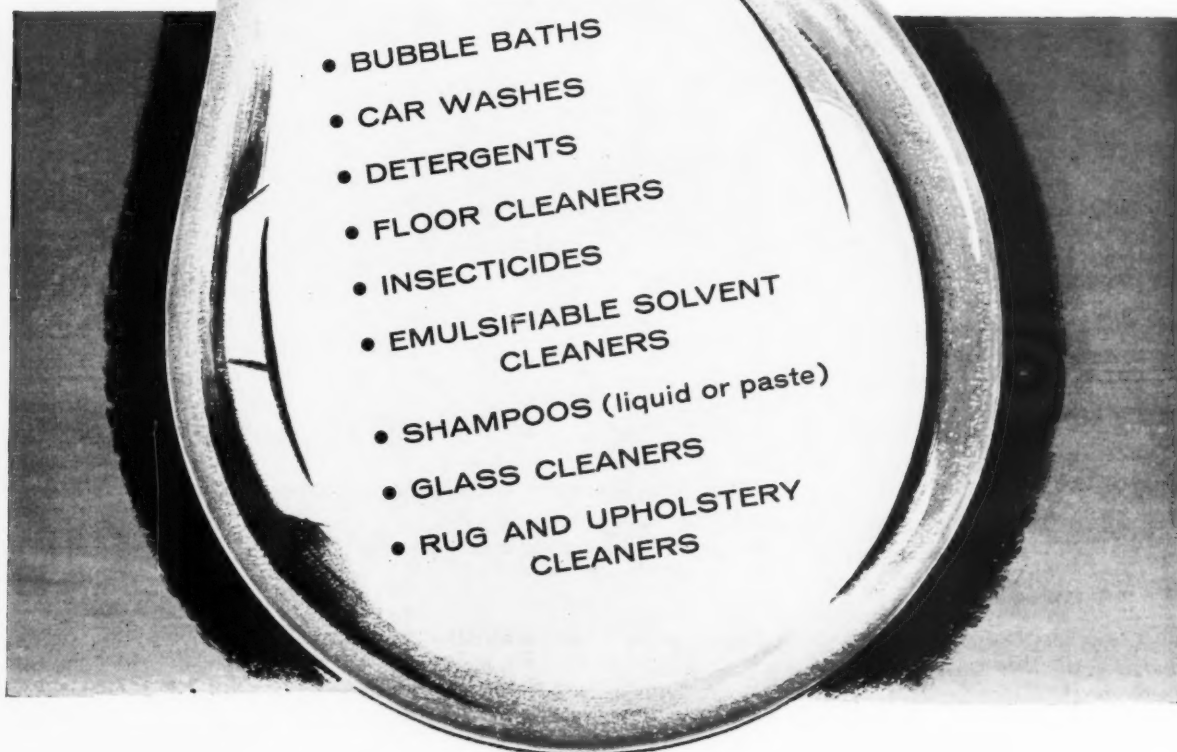
Corn Products Names Bond

Robert W. Bond has been named manager of the sales service department of Corn Products Sales Co., New York, it was announced last month by Alexander N. McFarland, president. In his new assignment, Mr. Bond will supervise technical representatives who assist Corn Products' industrial customers in the application of company products. Formerly, he served for four years as technical sales manager at the company's Argo, Ill., plant. He joined Corn Products as a chemist there in 1939.

Robert W. Bond



If you make one—or more—of these in liquid form



- BUBBLE BATHS
- CAR WASHES
- DETERGENTS
- FLOOR CLEANERS
- INSECTICIDES
- EMULSIFIABLE SOLVENT CLEANERS
- SHAMPOOS (liquid or paste)
- GLASS CLEANERS
- RUG AND UPHOLSTERY CLEANERS

... you'll get better results every time with

No matter what kind of liquid cleaner or insecticide you formulate, you'll find Orvus WA Paste best for the job!

A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium alkyl sulphate, Orvus WA Paste offers manufacturers excellent sudsing, wetting and emulsifying properties. Its exceptional dispersing and penetrating characteristics help make your products perform better every time, too!

Orvus WA Paste offers many important additional advantages you'll soon discover when you start formulating with this top-quality detergent. For more information on specific applications or formulas, drop a postcard to . . .

Procter & Gamble



Bulk Soap Sales Department
P. O. Box 599, Cincinnati 1, Ohio

SOAP and CHEMICAL SPECIALTIES

McAllister Succeeds Hatch

S. H. McAllister, has been appointed to succeed Fred W. Hatch as manager of the agricul-



S. H. McAllister

tural chemical sales division of Shell Chemical Co., New York, it was announced late last month. Mr. McAllister, director of Shell Development Company's agricultural research division at Denver, will assume his new duties at the firm's head office in New York, Nov. 15. Mr. Hatch will retire Dec. 31 after completing more than 25 years' service with Shell.

With the company since 1930, Mr. McAllister became associate director in charge of process development and pilot plants at

Emeryville, Calif., in 1942. Four years later he was made associate director of petroleum. He assumed his present post in 1955.



Fred W. Hatch

Mr. Hatch joined Shell as manager of the marketing-asphalt sales department. After serving in various other sales and managerial capacities he was named manager of the chemical division's agricultural sales department in 1950. In 1952, the agricultural chemical sales division was created, with Mr. Hatch as manager.

He has also served on the board of directors of the National Agricultural Chemical Association since 1953, and, for the past year has been its president.

Awarded DDT Contract

Sturtevant Mill Co., Boston, recently was awarded a contract as equipment supplier for a DDT plant to be constructed in Alwaye, southern India by Singmaster Breyer, Inc., New York. Included in the equipment to be supplied by the Boston firm is a 24-inch micronizer grinding machine, a preliminary blender, mixing and blending equipment, and collecting and packaging equipment.

Speaks on Pyrethrins

A paper on "Piperonyl Butoxide and Pyrethrins Officially Endorsed for Use on Stored Products in the USA," by Dr. Walter E. Dove, director of entomological research of Fairfield Chemical Divi-

sion, Food Machinery and Chemical Corp., New York, was one of the highlights of the fourth annual International Conference on Crop Protection held last month in Hamburg, Germany. Entomologists from more than 40 nations attended the meeting which ran from Sept. 8 to 16.

Wyandotte Price Cuts

Wyandotte Chemicals Corp., Wyandotte, Mich., has announced price reductions of \$.015 per pound on its clarified liquid grades of "Pluronic" polyols. According to W. L. Rippeteau, sales manager for organic products in the company's Michigan Alkali Division, the price cuts were made possible by recent process improvements.

New Carbide Insecticide

A novel agricultural insecticide compound was introduced recently by Union Carbide Chemicals Co., New York. Designated "Sevin", the new compound is currently undergoing extensive tests, "Sevin" is an aryl urethane. Its chemical name is 1-naphthyl N-methyl-carbamate. It is said to be of low toxicity and is expected to be marketed after collection of toxicity data and compliance with federal pesticide regulations have been completed.

CIA Names McGinley

Robert J. McGinley, associate manager of accounting and finance of the overseas division of Procter & Gamble Co., Cincinnati, has been named a director of the Cincinnati Control of the Controllers Institute of America. The Institute is a non-profit management organization of controllers and finance officers from all lines of business.

Nichols Joins Penick

George K. Nichols has been named special sales representative for the agricultural and insecticide division of S. B. Penick & Co., New York, it was announced late last month by Frank Seeland, division vice-president and manager. Mr. Nichols will represent the entire line of the division in New York, New Jersey, Pennsylvania and Massachusetts. He formerly served as sales representative with State College Laboratories of Pennsylvania.

George K. Nichols



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a long way
to find
these
properties**



...so specify

NOPCO HYONICS

HYONIC PE 250

(100% active nonionic alkyl aryl polyether alcohol)

Gives high, persistent foam

Effective over wide range of water hardness and pH

Excellent wetting agent and emulsifier

Extremely stable in presence of acids, alkalis, inorganic salts including heavy metal salts

A powerful detergent

Suggested uses—dairy detergents and milkstone remover, car wash, antiseptic sanitizer, paint and woodwork cleaner

HYONIC FS

(100% active lauric acid alkylolamide condensate)

Superior foam stabilizer for anionics

Remarkable thickening action over a wide range of concentrations

Non-corrosive—can be stored indefinitely

Excellent detergent and wetter and shows remarkable synergism when blended with anionics or nonionics

Suggested uses—liquid dishwasher, clear liquid shampoo, bubble bath

No, it isn't necessary to explore the universe for your detergent aids since Nopco Hyonics will undoubtedly provide just exactly the properties you need and Nopco technical men will work right with you to help you produce detergents of your own specifications.

Write today for complete data on Nopco Hyonics.
Nopco Chemical Company, Harrison, N J



PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Ont. Canada

Solvay Names Boehm

Appointment of Frederick P. Boehm as Pittsburgh sales manager of Solvay Process Division of



Frederick P. Boehm

Allied Chemical & Dye Corp., New York, was announced recently by L. B. Gordon, vice-president.

In his new assignment, Mr. Boehm will supervise Solvay's sales activities in western Pennsylvania and West Virginia. He joined the company in 1940 in the technical service department and was subsequently made manager of the ammonium and potassium products section.

Plough Elects Grant

Robert E. Grant has been elected vice-president of finance of Plough, Inc., Memphis, Tenn., it was announced recently by Abe Plough, president. Mr. Grant previously served with Kidder, Peabody & Co., investment bankers, in their New York and Chicago offices. Plough makes proprietary medicines and cosmetics.

Morris Katzman Dies

Morris Katzman, 52, president of Process Chemicals Co., Los Nietos, Calif., and board chairman of Pilot California Co., Los Angeles, died Aug. 29 in Los Angeles, after a brief illness.

Mr. Katzman, along with H. B. Russell, co-founded Process Chemicals in 1947. The company manufactures lauryl sulfates, polyethylene glycol esters, alkylolamides

and related surface active agents. In 1952, Mr. Katzman, Mr. Russell and John Morrisroe organized Pilot Chemical Co., later Pilot California Co. to manufacture dodecyl benzene sulfonates.

Prior to coming to Los Angeles in 1946, Mr. Katzman served for 12 years with Emulsol Chemical Corp., Chicago. During that time he was granted more than 100 patents on surface active agents, bactericides and food emulsifiers.

New Carbide Bulk Terminal

Union Carbide Chemicals Co., New York, recently announced the opening of a new bulk terminal in St. Louis. The unit, which is located on the banks of the Mississippi, is expected to improve distribution of Carbide's line of chemicals in St. Louis and surrounding areas. The new terminal is the 13th bulk station established by the company in the United States.

Peterson to U. S. Testing

William A. Peterson, formerly assistant director of the research and development department at Colgate-Palmolive Co., New York, has joined United States Testing Co., Hoboken, N. J., as senior chemist in the chemical development division. Prior to his association with Colgate, Mr. Peterson was chief chemist at Kirkman and Son, New York. He is a former president of the American Oil Chemists' Society.

William A. Peterson



Enjay Advances Peterson

H. William Peterson has been appointed assistant manager of the alcohols and chemicals divi-



H. William Peterson

sion of Enjay Co., New York, it was announced recently. With the company since 1951, Mr. Peterson formerly was district supervisor in the middle Atlantic states. Prior to joining Enjay, he served as a chemist with Esso Standard Oil Co. His research work has resulted in several process patents involving the utilization of petrochemicals in the manufacture of waxes.

Swift Names Palomba

Appointment of Vincent E. Palomba as sales representative for the technical products department of Swift & Co., Hammond, Ind., was announced recently by Fred Beneker, general sales manager. Mr. Palomba will handle Swift's complete line of fatty acids and industrial oils in Wisconsin, Minnesota, Iowa and northern Illinois.

ESA to Meet Nov. 25-26

The Eastern branch of the Entomological Society of America will hold its fall meeting at the Commodore Hotel, New York, Nov. 25-26. Topics to be discussed include "Elements of Entomology" and "Problems Involved in Mass Control of Insects." Dr. E. H. Smith, New York State Agricultural Experiment Station, Geneva, N. Y., has been named chairman of the program committee.

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... an Olin Mathieson plant is near you.

... your source of supply is constantly backed up by five other plants.

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Olin Mathieson sales representative.

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NIAGARA FALLS, N. Y.
50% and 73% Liquid (in tank cars)

2

SALTVILLE, VA.
50% and 73% Liquid (in tank cars)
76% Solid, Flake, Granular, and
Ground (in drum shipments)

3

HUNTSVILLE, ALA.
50% and 73% Liquid (in tank cars)
50% Liquid (in barges)

5

McINTOSH, ALA.
50% and 73% Liquid (in tank cars)
50% Liquid (in barges)

4

BRUNSWICK, GA.
50% Liquid (in tank cars and barges)

6

LAKE CHARLES, LA.
50% and 73% Liquid (in tank cars)
50% Liquid (in barges and tankers)
76% Solid and Flake
(in drum shipments)

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Hexamine • Hydrazine and Derivatives • Hypochlorite Products • Methanol • Muriatic Acid • Nitrate of Soda • Nitric Acid
Polyamines • Soda Ash • Sodium Chlorite Products • Sodium Methylate • Sulfate of Alumina • Sulfur (Processed) • Sulfuric Acid

4920

Detergent Sales Continue Growth in First Half

SALES of synthetic liquid detergents continue to grow. In the first half of 1957 they increased by 24.2 per cent over the corresponding period in 1956 and in the second quarter of this year sales were 29.6 per cent over last year. Toilet bar soaps, show an increase of 3.2 per cent in the semi-annual sales figures, but have dropped 9.1 per cent in the second quarter from comparable figures for last year, and 12.5 per cent from the first quarter of this year when they had shown a growth of 17 per cent.

Figures released late last month by the Association of American Soap & Glycerine Producers, New York, from its member firms, also showed total soap and synthetic detergent sales to have dropped in tonnage by 1.6 per cent from the first half of 1956. Dollar-

wise sales increased for the same period 4.4 per cent. For the first half of 1957 total soap and detergent tonnage sales amounted to 1,993,436,000 pounds valued at \$476,949,000. Total sales in the second quarter of 1957 were 960,885,000 pounds, down 5.8 per cent from last year's second quarter and 6.9 per cent down from the first quarter of this year.

First half '57 sales of synthetic detergents, solid and liquid, accounted for 70.4 per cent of the total soap and detergent production. Total detergent sales in the first six months of 1957 amounted to 1,403,557,000 pounds valued at \$323,648,000, compared with 1,376,311,000 pounds and \$302,661,000 in 1956. Sales of liquid synthetics in the first half of 1957 totalled 161,592,000 pounds and \$323,648,000,

compared with 1,376,311,000 pounds and \$302,661,000 in 1956.

Semiannual sales of soaps, both liquid and solid, totalled 589,879,000 pounds and \$153,301,000 in 1957, compared with 649,711,000 pounds and \$154,105,000 in 1956. This represents a 9.2 per cent drop in tonnage and 0.5 per cent drop in dollar value. In the second quarter of 1957 soap sales were 274,802,000 pounds, an 18.6 per cent drop from the second quarter in 1956 and 12.8 per cent down from the first quarter of this year.

—★—

Colgate Trade Agreement

Colgate-Palmolive Co., New York, last month announced a new fair trade discount policy for its dealers of toilet products in North Carolina. The company described its action as a nonpartisan approach to the trading stamp controversy.

Under the new agreement, which became effective Aug. 15, dealers have the authority to give customers a discount of up to three per cent, either in trading stamps, cash register receipts or other promotional devices, at the time of sale of any of Colgate's fair trade merchandise.

The company said that "by refraining from taking sides in the trading stamp controversy, it believes it is acting in the best interest of its dealers and the public. It pointed out that confusion has been created by some states which declared that use of trading stamps constitutes a price reduction.

In North Carolina, the status of trading stamps under the state's Fair Trade Act has not yet been determined.

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Amer. Associates Relocates

American Associates, exclusive U. S. sales representative of Meccaniche Moderne, Busto Arsizio, Italy, manufacturers of processing and packaging equipment for soap, detergents and related specialties, has moved its New York offices to 520 Fifth Ave., New York 36. The company formerly was located at 507 Fifth Ave.

Sales of Soaps and Detergents—1st Half of 1957 and 1956

	Pounds		Dollars	
	1957	1956	1957	1956
Soaps other than liquid	572,999,000	631,157,000	150,071,000	150,061,000
Liquid soaps	16,888,000	18,554,000	3,230,000	4,044,000
Total	589,879,000	649,711,000	153,301,000	154,105,000
Bar toilet soaps, incl. mechanics. Yellow and other than white laundry bars	252,952,000	245,184,000	83,011,000	75,139,000
White laundry bars	23,793,000	27,771,000	2,674,000	3,204,000
Soap chips and flakes, pkgd.	68,054,000	85,454,000	13,282,000	14,926,000
Soap chips and flakes, bulk	23,077,000	31,494,000	7,681,000	8,664,000
Soap, granulated, sprayed, pkgd.	50,798,000	55,543,000	6,095,000	6,468,000
Soap, granulated, bulk	82,444,000	103,865,000	22,366,000	25,354,000
Soap, granulated, sprayed, bulk	41,262,000	47,281,000	5,008,000	5,431,000
Washing powders, pkgd.	1,141,000	114,000	2,149,000	216,000
Washing powders, bulk	7,116,000	7,799,000	654,000	643,000
Hand pastes	2,427,000	3,037,000	276,000	387,000
Hand powders	3,665,000	4,023,000	599,000	676,000
Paste and jelly soaps	7,549,000	7,819,000	1,056,000	1,095,000
Shaving soaps	1,540,000	1,634,000	1,047,000	1,097,000
Shaving cream	6,483,000	7,117,000	6,083,000	6,600,000
Liquid soaps, other than pkgd. shampoo	1,854,000*	2,233,000*	2,760,000	3,417,000
Soap shampoo, liquid, pkgd.	257,000*†	85,000*	470,000	627,000
Misc. or other soaps	690,000	987,000	125,000	161,000
Detergents, solid	1,241,965,000	1,246,239,000	264,537,000	249,566,000
Detergents, liquid	161,592,000	130,072,000	59,111,000	53,095,000
Total	1,403,557,000	1,376,311,000	323,648,000	302,661,000
Detergents, solid, pkgd., other than shampoo	1,116,558,000	1,108,044,000	247,527,000	231,591,000
Detergents, solid, bulk, other than shampoo	116,255,000	129,179,000	11,673,000	12,289,000
Detergents, liquid, pkgd., other than shampoo	16,331,000*	14,115,000*	50,046,000	44,748,000
Detergents, liquid, bulk, other than shampoo	3,401,000*	1,622,000*	3,572,000	2,162,000
Detergent shampoos, liquid	3,736,000	4,176,000	5,493,000	6,185,000
Detergent shampoos, solid	9,152,000	9,016,000	5,337,000	5,686,000

* Expressed in gallons.

† This figure appears open to question. Use dollar value for comparison of soap shampoo sales.

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New Personality

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DCAT Meets, Elects W. B. O'Connor Chairman

W• BOYD O'CONNER, president of Ayerst Laboratories Div. of American Home Products Corp., New York, was elected 61st chairman of the Drug, Chemical & Allied Trades Section of the New York Board of Trade during DCAT's 67th annual meeting at Galen Hall, Wernersville, Pa., Sept. 19-21. Mr. O'Connor succeeds J. David Hayden, eastern sales manager of R. P. Scherer Corp., who was chosen section representative to the board of directors.

Other officers elected by DCAT include Ralph A. Clark, vice-president, J. T. Baker Chemical Co., Phillipsburg, N. J., vice-chairman; William W. Huisking, vice-president, Chas. L. Huisking & Co., New York, treasurer; William J. Quinn, Merck & Co., Rahway, N. J., counsel; and Helen L. Booth, secretary.

Featured speaker at the convention, which was attended by more than 400 members, guests and wives, was Dr. Clarence Cook Little, noted cancer research scientist.

Dr. Cook spoke on the complexities involved in studying chemical addi-



W. Boyd O'Connor

tives to foods and investigating tobacco use and health. In his talk, he warned against over-simplification and misplaced zeal in any effort to detect cancer-causing agents.

Elected as members of the executive committee of the section were: Norman C. Babcock, vice-president, Union Carbide Chemicals Co., Fred A. Coc, Jr., vice-president of Burroughs, Wellcome &

Co., John A. Ewald, president Avon Products Co., William J. Schieffelin III, vice-president of Schieffelin & Co., F. M. Schwemmer, White Laboratories, Inc.; Paul E. Weber, Chas. Pfizer & Co.; and John E. Zacharias, McKesson & Robbins, Inc.

Elected to honorary membership on the executive committee was James G. Flanagan, vice-president of S. B. Penick & Co., who served as counsel and chairman of the legislative committee of DCAT for the past eight years. Recognition was also accorded Fred G. Singer, retiring executive of E. I. du Pont de Nemours & Co., who had been chairman of the section's tariff committee since 1950 and a member of the executive group since 1947.

UBS Stock Offering

UBS Chemical Corp., Cambridge, Mass., last month offered for public sale 57,800 issues of its common stock at \$16 per share. Transactions are being handled by G. H. Walker & Co., 1 Wall St., New York.

Of the offering of UBS stock, 34,000 shares are being sold by the company and 23,800 shares for stockholders. A part of the company's share of proceeds will be used to retire 565 shares of outstanding prior preferred stock at \$103.84 per share.

Dow Appoints Two

Donald K. Ballman has been named director of sales of Dow Chemical Co., Midland, Mich., it was announced recently by Leland I. Doan, president. He succeeds Donald Williams, who recently was appointed director of corporate relations.

Formerly general sales man-

ager, Mr. Ballman will be replaced in the post by William R. Dixon, assistant general sales manager since 1951. Mr. Ballman joined Dow in 1935 and since that time has been active in both sales and sales development work. He became assistant general manager in 1945 and four years later was named to his most recent position.

Last year he received the annual honor award of the Commercial Chemical Development Association for his leadership in product development work.

With Dow since 1936, Mr. Dixon was named assistant sales manager of the plastics department in 1943, a post he held until his most recent advancement.

Donald K. Ballman



Donald Williams



William R. Dixon



RENEX®



Reports

CHEMICALS DIVISION
ATLAS POWDER COMPANY, WILMINGTON 99, DELAWARE
Atlas Powder Company, Canada, Ltd., Brantford, Ontario, Canada

Here's help in meeting MIL specs for cleaners



The armed forces are mighty big buyers of a great assortment of cleaning compounds. Not only for military laundries, but also for cleaning aircraft, barracks walls, and all kinds of military gear. For each class of compound, definite specifications have been established. And they're no cinch to meet.

If you're interested in making cleaning compounds for military use, we can probably help you. We can give you valuable tips for formulation, from the work that our Product Development staff has done with applications of this nature. And for particular specs, we can steer you to the right RENEX detergent to use from the family of products listed below.

Our experience in military cleaners is summed up in a new bulletin. Write for a copy, and for samples of RENEX detergents for your testing.

Pine Oil Cleaners— made to order



The pleasant odor and good sanitizing action of pine oil cleaners have made these products highly popular with the housewife.

If you'd like to explore the possibilities of producing pine oil cleaners, we suggest you investigate the properties you can add to this type of product by using RENEX® 20 and 30 as the detergent ingredient. A small amount of these concentrated materials gives you a lot of cleaning power.

Our lab has worked out a number of typical pine oil formulas that give you a wide selection of appearance—from clear to hazy and cloudy—to permit you to select the exact eye-appeal you want in the finished product. We'll be glad to send you our bulletin listing these formulas, and to give you samples of these RENEX detergents for your evaluation.

Formulate to fit your needs with the RENEX 600 detergent family

RENEX No.	648	697	688	698	690	678	650
Mols ETO	5	6	8	9-9.5	10	15	30
Form @ 25° C.	liquid	liquid	liquid	liquid	liquid	liquid	solid
HLB No.	10	10.9	12.3	13	13.3	15	17.1
Wetting @ 25° C. (% soln. req. for 25 sec. wet)	—	.1 .2	.06 .08	.05 .07	.05 .07	.3 .5	>1
Foam height (Ross-Miles, mm .05% soln. @ 25° C.)	11	11	17	26	40	83	71
Cloud Point °F. (1% soln.)	—	<32	87	129	150	211	>212
Water solubility*	I	D	D	S	S	S	S

* I—insoluble
D—dispersible
S—soluble

NOTE: These data represent typical characteristics rather than guaranteed specifications.

Expands Phosphate Plant

Westvaco Mineral Products Division of Food Machinery and Chemical Corp., New York, recently completed expansion of its Newark, Calif., phosphoric acid and phosphate plant. The new facilities will double the plant's capacity. Additional finished product storage and bulk loading facilities also have been added, according to W. N. Williams, president. Mr. Williams stated that the expansion was necessitated by increased use of synthetic detergents containing sodium phosphates.

—★—

P&G's "Comet" Now Kosher

Procter & Gamble Co., Cincinnati, recently revealed that its "Comet" cleanser is now kosher. Containing "Chlorinol", the product is manufactured under rabbinical supervision of the Union of Orthodox Jewish Congregations of America.

The cleanser will be promoted to Jewish families as an all-purpose cleaner which is guaranteed by the Orthodox Union's Kosher Certification Service as kosher for all occasions.

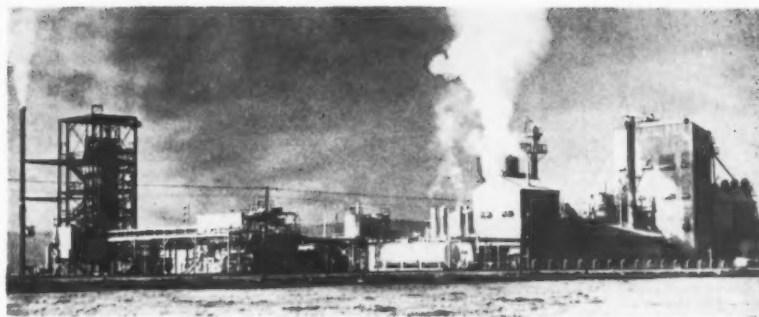
Kosher "Comet" will be listed in the forthcoming fall 1957 issue of the Orthodox Union's Kosher products directory and also will be listed in the next issues of *Jewish Action*, official publication of the Orthodox Union.

—★—

CSMA Washington Exhibit

Business services available to manufacturers of specialty chemicals for industry and home are outlined at the Commercial Standards Exhibit now in progress in the Department of Commerce Building, Washington, D. C. Sponsored by the commodity standards division of the Commerce Department, the show runs through Oct. 18 and features exhibits of 18 trade associations.

One of the major exhibits is that of the Chemical Specialties Manufacturers Association. It displays pertinent information about CSMA, which was founded in 1914



Recently-expanded Newark, Calif. phosphate plant of Westvaco Mineral Products Division of Food Machinery and Chemical Corp., New York.

and composed of nearly 400 firms in the chemical specialty field, and also lists commercial and technical publications developed by its six product divisions. These divisions include aerosols, automotive specialties, disinfectant-sanitizers and deodorants, insecticides, soaps, detergents and sanitary chemicals, and floor waxes and finishes.

—★—

Baker El Dorado Rep.

El Dorado Division of Foremost Food and Chemical Co., Oakland, Calif., has appointed M. H. Baker Co., 1645 Hennepin Ave., Minneapolis, as its exclusive sales representative in Minnesota and western Wisconsin. Baker will han-

dle Foremost's lines of fatty acids, methyl esters and coconut oils.

—★—

Shulton Names Hutchens

Appointment of John A. Hutchens to the newly-created post of director of wholesaler relations of Shulton, Inc., Clifton, N. J., was announced recently by Richard N. Parks, toiletries division sales manager. Mr. Hutchens will headquarter in Chicago and will supervise development of a wholesaler merchandising program for franchised wholesalers as well as those handling the firm's "Thylox" line of proprietary pharmaceuticals. He formerly was assistant midwest branch manager.

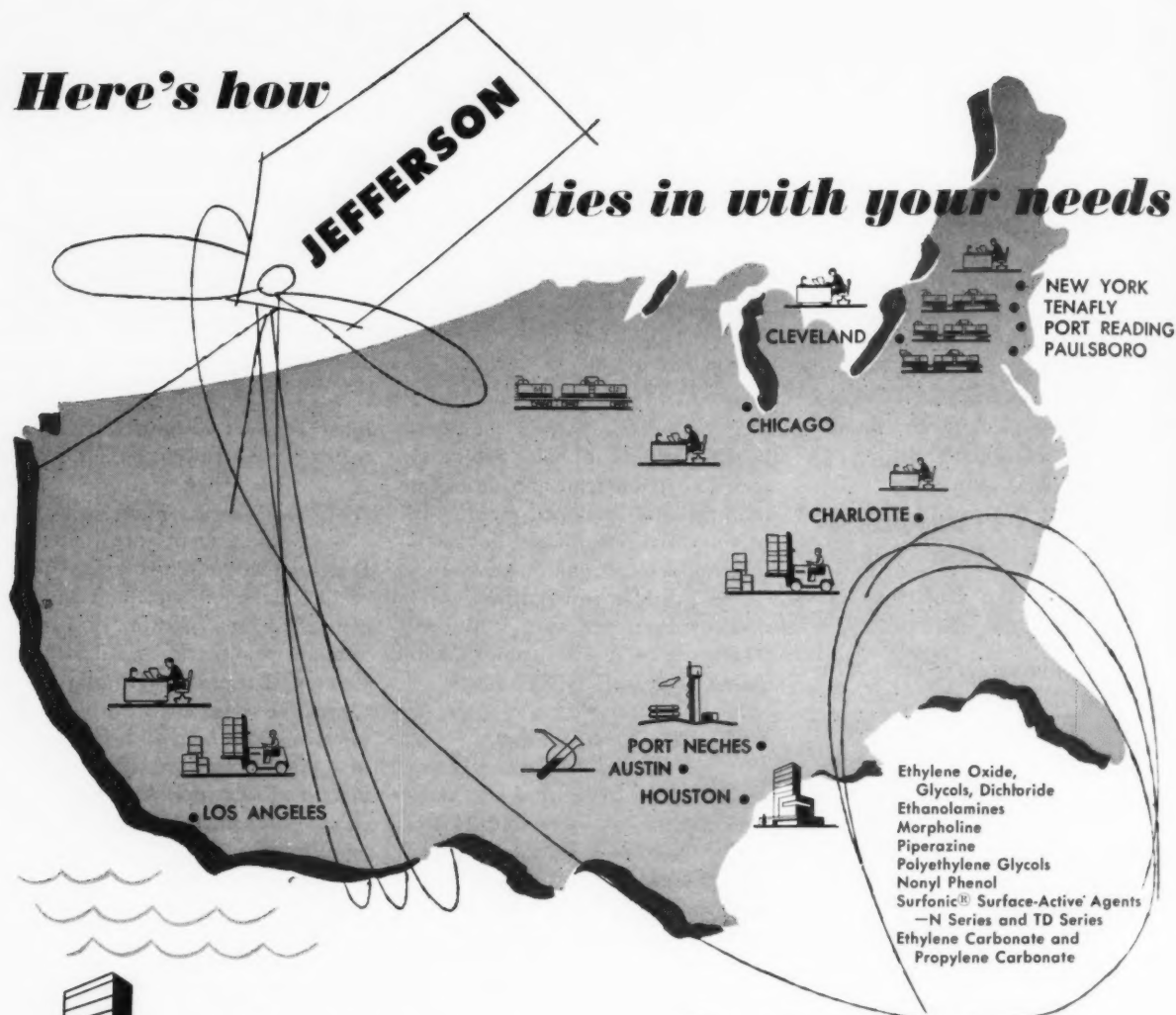
Sidney Coyne (left), secretary of the New York State Association of Sanitarians, and Simon Orenstein, president of the National Association of Sanitarians, sign contract for 22nd annual Educational Conference of National Association to be held in Sheraton-McAlpin Hotel, New York, July 28 to Aug. 1, 1958. Standing, from left to right are: Robert E. Mytinger, program chairman, public health committee, Paper Cup and Container Institute, and chairman of the NAS educational conference committee; John Anastasi, sanitarian, New York City Health Department, and general chairman for the 1958 Conference; Jerome Trichter, assistant commissioner of health for environmental sanitation of the New York Department of Health, and conference program chairman; and W. S. Essex, director of sanitation, General Baking Co., New York, and co-chairman of over-all Conference arrangements. Group met last month in Mr. Trichter's office to complete final plans for forthcoming meeting.



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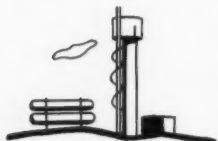
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Our sales and technical service staffs are ready to assist you in developing the most profitable applications of our products.



WAREHOUSES

Convenient distribution points make stocks readily available in any quantity to assure prompt and dependable service.



PLANT

Modern equipment and exacting tests control the manufacture of all chemicals . . . to help improve your products and processes.



BULK TERMINALS

To handle your needs for bulk shipments of quality petrochemicals.

Jefferson
CHEMICAL COMPANY, INC.
1121 Walker Ave., Houston 2, Texas





In a recent UV spectrophotometer test with three other white oleines, GROCO 5L was shown to have the lowest quantity of linoleic acid (233 mμ

wavelength). This was demonstrated by density readings of 0.291, 0.431, 0.661 for competitive acids . . . and 0.274 for GROCO 5L.

LINOLEIC IS LOWEST IN GROCO 5L WHITE OLEINE

When GROCO 5L LOW LINOLEIC WHITE OLEINE is tested against competitive oleines, the spectrophotometer clearly proves what many processors have discovered through use—GROCO 5L is lowest of all in linoleic acid content—3.5% maximum.

This means unexcelled lightness of color and unexcelled color stability under heat. The unusual oxidation stability of GROCO 5L LOW LINOLEIC WHITE OLEINE may be judged from Mackey Test results—it

remains below 105°C. for better than 5 hours.

With 88% to 90% oleic acid, GROCO 5L also is ideal for chemical use. Among competitive acids it has the highest real fatty acid content and the lowest unsaponifiables.

GROCO 5L LOW LINOLEIC WHITE OLEINE is a straight line to the top quality end product you want . . . whether used as a chemical, in cosmetics, soaps, polishes, wool oils, or oleates. "Always specify A. Gross."

FATTY ACIDS

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And behind Wyandotte chlorine stands the sincere, deep-rooted technical service that is an integral part of the Wyandotte way of doing business.

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MCA Labeling Conference

A general conference on labeling chemicals and related materials for the information and protection of the user was held under the sponsorship of the Manufacturing Chemists' Association at the Park Sheraton Hotel, New York, Oct. 9.

There were nine sessions running from 9:30 a.m. to about 4:30 p.m. Topics to be discussed ranged from household compounds to industrial chemicals and current regulation programs. The meeting was arranged by the labels and precautionary information committee of the association. An attendance of approximately 200 was expected, including many state and government officials.

Edward Hogan of Allied Chemical & Dye Corp., New York, was conference chairman. An exhibit of new labeling techniques and programs also was held in conjunction with the meeting.

Panel session leaders and their topics were:

John Williamson, American Cyanamid Co., New York, "MCA Uniform Principles of Precautionary Labeling;" Ralph G. Troup, J. T. Baker Chemical Co., Phillipsburg, N. J., "History and Development of Precautionary Labeling;" Chester L. French, Mallinckrodt Chemical Works, St. Louis, "Review of Today's Labeling Laws and Regulations;" Nicholas M. Walker, Pennsalt Chemicals Corp., Philadelphia, "Review of Proposed Regulations for the Future;" James D. Kittelton, MCA, "MCA Activities Related to Precautionary Labeling;" Dr. John H. Fougler, E. I. du Pont de Nemours & Co., Wilmington, Del., "Health Hazards as related to Precautionary Labeling;" George E. Brewer, Shell Chemical Corp., New York, "A Review of the Manufacturer's Legal Responsibilities;" and John B. Tuttle, Esso Standard Oil Co., Elizabeth, N. J., "Recommendations for Future Precautionary Labeling Activities."

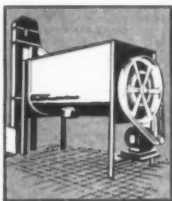
The conference was to conclude with a question and answer period in which the audience's questions were answered by a panel including:

James T. Fuess, Distillation Products Industries, New York; Sanford J. Hill, E. I. du Pont de Nemours & Co.; Frank S. Low, Food Machinery and Chemical Corp., New York; Harry H. McIntyre, Dow Chemical Co., Midland, Mich.; Robert D. Minter, Monsanto Chemical Co., St. Louis; Dr. Thomas W. Nale, Union Carbide Chemicals Co., New York.

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Sodium Toluene Sulfonate



Albert J. Dillinger (left) is congratulated by Charles Pitman Walker, president of van Ameringen-Haebler, Inc., New York, on the 42nd anniversary of his employment by the company. Mr. Dillinger, is a perfumer, and a past president of the American Society of Perfumers. He is the company's oldest employee in length of service. During his career, van Ameringen-Haebler has grown from a firm of five employees to nearly 500. Mr. Dillinger can recall, too, when the U. S. was entirely dependent on foreign sources for its perfuming materials and used far fewer raw materials. Now, the U. S. synthetic organic chemical industry has world-wide stature and is a substantial exporter of fragrance materials.

Premiums Anyone?

(From Page 48)

- lationship with the advertising strategy.
3. Review the attitudes and abilities of the sales department.
 4. Set a clearly defined objective.
 5. Build the program to meet this objective.
 6. Run a consumer preference test that will produce valid results.
 7. Use tests in the market when additional information is needed.
 8. Finally, make sure that your historical experience is so organized and up-dated that it becomes a useful tool whenever your thoughts turn to the use of a premium.

Pressure Packaging

(From Page 149)

nitrogen aerosols, chocolate syrups dispensed under pressure are expected to be introduced shortly by Nestle Co., New York, and Hershey Chocolate Corp., Hershey, Pa. In the non-food field, Colgate-Pal-

molive Co., New York, is readying an aerosol dispensed toothpaste, which may be on the market in 60 days or less, according to predictions in the trade.

Another new aerosol food product, work on which had long been rumored in the trade, made its debut last month. "Sizl-Spray" barbecue sauce of Andersen's Foods, Inc., a division of G. F. Heublein Co., Hartford, Conn., is now being test marketed on the West Coast. Nine fluid ounces of product are packaged in a 12-ounce Continental can. The sauce is dispensed through a Precision valve. Western Filling Corp., Los Angeles, is the loader. The propellant is a mixture of nitrous oxide and carbon dioxide. Full details on the new barbecue sauce are included in an excellent article, possibly prophetically entitled, "Major Breakthrough in Food Aerosols" in the September issue of *Food Engineering* magazine (published by McGraw-Hill Publishing Co., 330 W. 42nd Street, New York 36).

In a month packed with new aerosol developments the Tilford Toiletries Division of Park & Tilford, New York introduced the first commercial aerosol product in a

blow-molded, "Zytel" (nylon plastic) bottle. Four and one half ounces of Tilford's "Stay Set" soft scent hair spray (see photo on page 144) are packaged in a plastic aerosol container of unusual design. Although this container is more costly than glass or metal, it is felt that the investment in the style factor is a must if aerosols are to reach their full potential in the cosmetic and toiletries fields.

★

New Arkansas Rep.

Appointment of Biddle Sawyer Corp., 20 Vesey St., New York 7, as exclusive distributors in the eastern and mid-western United States for Arkansas Chemical Co., Malvern, Ark., was announced recently. Biddle Sawyer will handle sales of the firm's montan wax.

As Reader Sees It

(From Page 43)

Although we disagree violently with Mr. Sachs' assertion that the chemical specialties industry has been "negligent" and "callous" in failing to protect the public against accidental poisoning, we go along, in general, with his moderate approach to the subject of labeling. We take exception, also, to his statement that blame for the current wave of labeling legislation can be laid to the negligence and callousness of the chemical specialties manufacturing industry. Much of this legislative activity is sheer politics. Scare headlines in newspapers give the law makers the ideas.

While the manufacturer of chemical specialties is interested in seeing that his product is used correctly and wants to guard against misuse and possible accidents, for humanitarian and business reasons, parental responsibility should not be overlooked. If parents don't take the trouble to read labels and see that all household chemicals are kept out of the reach of small children, the efforts of the manufacturer are in vain. This also points up the need for an educational and publicity campaign to make parents aware of the possible dangers of certain household chemical specialties, in addition to caution statements on labels.

Possibly the packaging industry might help out by designing closures that children would have difficulty opening. It might be worth a try.

It is our feeling, too, that while some chemical specialties manufacturers may have been unaware that their products might be misused, they are no more culpable than Henry Ford is for the present ever-mounting death rate from automobile accidents by his making possible mass production of motor cars. Ed.

Premium Conference Hears Lever Man

A DISCUSSION of premiums by Jack Doran, promotion services director of Lever Brothers Co., New York, was a highlight of the Premium Advertising Conference held at the Hotel Sheraton-Astor Hotel, New York, Sept. 10. The Conference was held in conjunction with the New York Premium Show, which ran from Sept. 9-12.

In his talk, which appears

in full elsewhere in this issue, entitled "Anyone for Premiums," Mr. Doran discussed eight methods on planning premium promotions to avoid the pitfall of using a premium "just to be doing something." He declared that a premium must fit the brand's overall marketing concept, be compatible advertising strategy, and be supported by a selling force equipped

to promote the offer to the trade and follow-through with the right kind of merchandising activity.

His eight-point approach to premium promotion planning is:

1. Take a careful look at the brand's overall marketing picture;
2. Check into the premium's relationship with advertising strategy;
3. Review the attitudes and abilities of the sales department;
4. Set a clearly defined objective;
5. Build a program to meet this objective;
6. Run a consumer preference test that will produce valid results;
7. Use tests in the market when additional information is needed;
8. Finally, make sure that your historical experience is so organized and updated that it becomes a useful tool whenever your thoughts turn to the use of premiums.

Other speakers at the meeting included Arno Johnson, vice-president and senior economist of J. Walter Thompson Co., New York, who spoke on "Consumption Must Expand Fifty Per Cent by 1968," and Henry King of Supermarket Institute, New York, who gave a talk on "Super Markets - Bigger Opportunity Than Ever."

Attendance at the four-day meeting approached 6,000, with almost 800 manufacturers displaying their wares at 256 exhibit booths.

Next year's show will be held at the Sheraton-Astor, Sept. 8-11. It also was announced that 25th annual Premium Buyers Exposition will be held at the Navy Pier, Chicago, Apr. 14-17, 1958. Both shows are sponsored by the Premium Advertising Association of America.

—★—

Moran Joins Lehn & Fink

Appointment of Joseph A. Moran as advertising manager of the international operations division of Lehn & Fink Products Corp., New York, was announced last month by Edward Plaut, president. Mr. Moran will assist in formulation of marketing activities for the company's foreign subsidiaries and will manage and coordinate all advertising and merchandising of both Lehn & Fink and Dorothy Gray Divisions in international markets.



When you work with objectionable odors for a long period of time, to you, the odors virtually cease to exist. Too often, this kind of immunity affects your sales. Your customer has no such immunity!

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| ★ insecticides | ★ textiles |
| ★ household cleaners | ★ chemical specialties |



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U. S. Toilet Soaps Rate Well, Says C. U. Report

PERFUME and economy in use are the only important variables among the popular brands of toilet soap bars. All are good cleansers. This is the gist of a survey covering 72 brands, conducted by Consumers Union, Mount Vernon, N. Y., and reported in the September issue of *Consumer Reports*.

The 72 products evaluated included 65 plain (or fancy) toilet soaps, four deodorant soaps, and three bar form synthetic detergents. Prices range from 29 cents per pound for "Swan Toilet" by Lever Brothers Co. to \$7.62 cents per pound for "Shocking de Schiaparelli" by Parfums Schiaparelli, Inc.

Synthetic toilet bars cost from 58 cents per pound for "Zest" Beauty Bar by Procter & Gamble Co. to \$1.06 for "Vel" Beauty Bar by Colgate-Palmolive Co. "Dove" by Lever costs \$1.04 per pound.

Prices for deodorant toilet soaps range from 46 cents for "Lifebuoy" with TMTD by Lever to 61 cents per pound for "Golden Dial" with "Super AT-7" by Armour and Co. "Zest", although a synthetic, is included with the deodorant bars because it contains chlorosubstituted carbanilide. In 1956 deodorant soaps accounted for nearly one fourth of the total dollar value of toilet soap sales.

Economy in soap depends not only on price but also on the rate at which the bar is used up. Attrition tests were run employing a device especially designed for this purpose. A few brands were found to be used up significantly faster than the average. "Kirk's" Original Coco Hardwater Castile by Procter & Gamble and "Sayman" Special Purpose Vegetable Wonder by Sayman Products Co. were consumed faster than average. Both claim to be hard-water lathering but, according to CU, they sudsed no better in hard water than ordinary soaps. "Lava" by P&G had a much higher attrition rate than average according to CU tests. On the other hand, this brand is not strictly a toilet

soap, but a mild scouring type for heavier duty hand washing. "White Rose No. 4711" also was rated by CU as using up much faster than average. Consumers Union however points out, that use habits vary so widely that the lasting quality of soap can be predicted only very roughly by any laboratory technique so far developed.

Perfumes in the soaps were rated for odor quality, strength, and the amount of odor imparted to the skin. Generally, the soaps with spicy or rich-perfumy fragrances were found to leave a noticeable though slight fragrance on the skin. Soaps judged by CU to feature an excellent quality of this type of odor ranged from "Early American Old Spice" by Shulton, Inc., \$1.99 per pound, to
(Turn to Page 207)

HARCHEM INVITES YOU TO COMPARE

If you use Fatty Acids you will want Harchem's new publication of specifications and characteristics for their Century Brand Fatty Acids. Harchem gives you the latest data about all grades in their complete line of uniform quality fatty acids. You are the best judge of the type and grade you need. By using this information as a basis for comparison, you can select the fatty acid best suited for your specific use.

Harchem offers you a free type sample of the kind and grade Century Brand Fatty Acid you specify. We invite you to make comparisons with any competitive product of like grade.

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Fragrance Foundation Meets, Elects Thomas

H. GREGORY THOMAS, president of Chanel, Inc., New York, was elected president of the Fragrance Foundation at the organization's eighth annual meeting held at the Hotel Park Lane, New York, Sept. 17. Mr. Thomas succeeds Jean Despres, executive vice-president of Coty, Inc., who was elected a director for a term of three years.

Other newly-elected members include Paul Martinot, Caron Corp., for a term of two years, and Charles Bryan, Firmenich and Co.; Ernest R. Durrer, Givaudan-Delawanna, Inc.; Jack Mohr, Park and Tilford; Charles Granville, Angellique & Co.; and Owen Stoner, Prince Matchabelli, Inc., for one year terms.

Principal speaker of the program was Edward J. Breck, president of John H. Breck, Inc., Springfield, Mass. He spoke on the advantages of promoting fragrance

products to the teenage markets and described a public relations-education campaign being conducted by his company which had won the "Key of Achievement" award of the Students Marketing Institute. Mr. Breck stated that girls under 20 comprise an important market for fragrance products and one which can and should be cultivated. He concluded that teenagers want fragrance products and should be educated to their use.

Another highlight of the one-day meeting, which was attended by nearly 300 executives of the fragrance industry, was a talk on "The Usage of Fragrance — and Ideas for Its Further Study and Exploration," by Charles Roth, vice-president of John R. Martin Associates, industrial psychologists. Other papers presented at the meeting included "How to Sell Perfume to the People," by Burton Sachs, executive assistant to the merchan-

dising vice-president of Bloomingdale's, New York, and "How to Sell Women on the Propriety of Wearing Perfume," by Mrs. Catherine Finerty of Batten, Barton, Durstine & Osborne, New York. Miss Sherry Stone, executive director of the foundation, gave a report on all of the past year's activities of the organization.

Re-elected as officers were Bernard d'Escayrac, Guerlain, Inc., Pierre Harang, Houbigant Sales Corp., and Frazer V. Sinclair publisher of *Drug and Cosmetic Industries* and *Beauty Fashion* magazines, vice-presidents; A. L. van Ameringen, van Ameringen-Haebler, Inc., secretary; and Joseph A. Danilek, Mary Chess, Inc., treasurer.



Acquires National Labs.

Lehn & Fink Products Corp., New York, last month acquired National Laboratories, Inc., Toledo, manufacturer of sanitary chemicals for industrial and institutional use. The purchase was a straight cash transaction, the amount of which was not disclosed.

Dr. Edward Plaut, L&F president, stated that no changes are contemplated in the management of National Laboratories. Lisle C. Van Nest, president of National, will continue as the chief executive officer of the firm. Dr. Plaut added that the purchase "should add at least 50 cents per common share a year to our earnings."

"Although this acquisition is a diversification move," he said, "products of National Laboratories will also complement our company's present line of disinfectants." National products include "N-L Concentrate," a heavy-duty liquid cleaner; "Vani-sol," a liquid bowl cleaner, and "Duratex," an industrial floor-wax.

Purchase of National marks the second major acquisition by Lehn & Fink within the past year. Late in 1956 it took over Ogilvie Sisters, manufacturers of hair preparations.

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"Shocking de Schiaparelli", \$7.62 per pound.

In addition to deodorant additives, superfatting agents, and perfumes the soap maker uses a vast variety of shapes and colors to distinguish his product from competing cleansers.

There is one major aspect of toilet soap sales appeal which does not come within the area covered by the CU report. Next to perfume, the package design and quality is doubtless a major factor in this field.

—★—

Three Onyx Appointments

John M. Carpenter has been named sales representative for the industrial department of Onyx Oil & Chemical Co., Jersey City, N. J., it was announced last month by F. O. Robitschek, president. The company also revealed the appointment of Dr. Giuliana C. Tesoro as associate director of research and Morton B. Epstein as assistant research director.

Mr. Carpenter will handle Onyx's line of surface active agents and other industrial compounds in Ohio, western Pennsylvania, southwestern New York State and eastern Michigan. He will headquarter in Cleveland.

Dr. Tesoro, formerly assistant director of research, joined Onyx in 1944. She later became head of the organic research department and in 1955 was appointed to her most recent position. Dr. Epstein came with the company in 1954 following five years with Colgate-Palmolive as a project chemist. He formerly was head of the application research department.

—★—

Insecticide Firm Moves

Chemical Insecticide Corp., last month moved its administrative and sales offices to 30 Whitman Ave., Metuchen, N. J. The company, which formerly was located at 129 Montague St., Brooklyn 1, N. Y., manufactures insecticides and fungicides for sale under its own label.



Dr. G. C. Tesoro



John M. Carpenter



Morton B. Epstein

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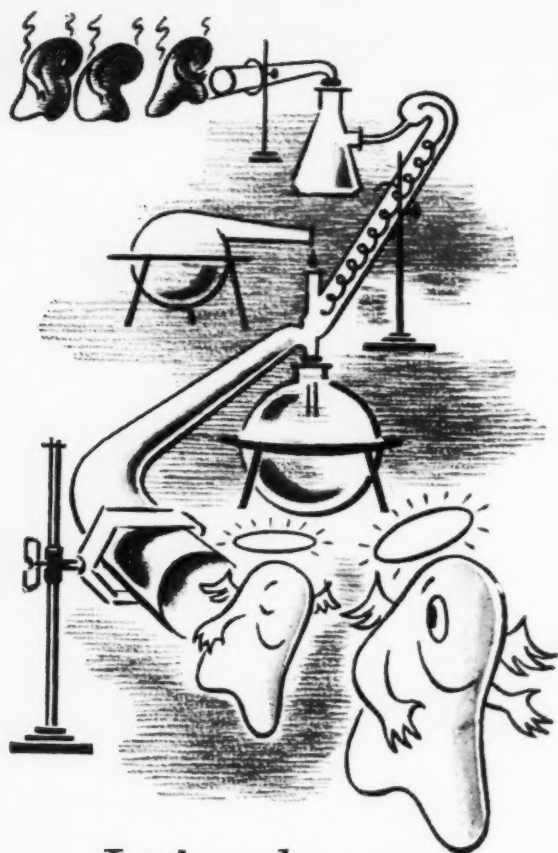
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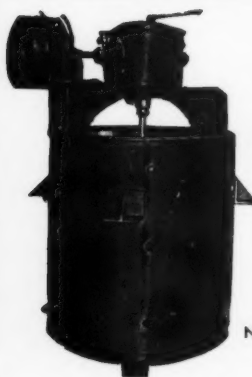
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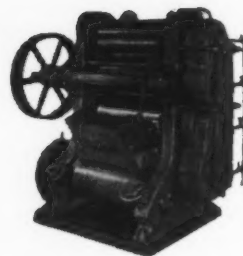


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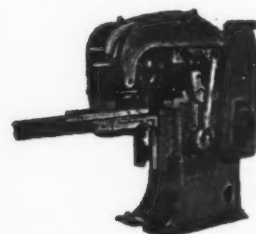


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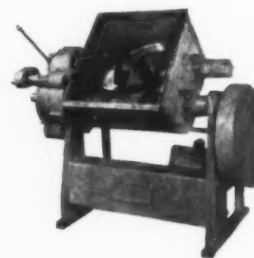
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For Sale: Equipment from soap plant—Proctor & Schwartz single drum flakers 6' long; Glycerine evaporators; Ribbon mixers 48, 56 cu. ft.; 1900 gallon jacketed crutchers. Perry Equipment Corp., 1410 N. 6th St., Phila. 22, Pa.

Available: 64 page listing of "Synthetic Detergents Up-to-Date", (1955). Write John W. McCutcheon, 475 Fifth Ave., New York 17, N. Y.

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Pesticide Label Changes

To clarify its policy of not endorsing specific commercial pesticides, the U. S. Department of Agriculture on Sept. 11 proposed an amendment to the Federal Insecticide, Fungicide and Rodenticide Act which covers labeling of these products. Under the proposed change the U.S.D.A. would consider a pesticide misbranded if its label carried "any statement directly or indirectly implying that an economic poison or device, or any ingredient or constituent element thereof, or combination of ingredients, is recommended or en-

dorsed by any agency of the Federal Government."

Officials of the Agricultural Research Service of the U.S.D.A., which is responsible for enforcing provisions of the Act, point out that labels on some commercial pesticides bear such claims as: "Formula Recommended by the United States Department of Agriculture", or "Active Ingredients Recommended by the United States Department of Agriculture." Anyone interested in expressing his views on the proposed amendment to the Regulations for the Enforcement of the Federal Insecticide, Fungicide and Rodenticide Act had until Oct. 11 to do so.

—★—

Polak Names Altschul

Appointment of Kurt Altschul to the sales staff of Polak Frutal Works, Inc., Middletown, N. Y., was announced last month by Bernard Polak, president. Mr. Altschul will be in charge of the firm's marketing and sales promotion activities on the eastern seaboard.

—★—

Mass. Sanitary Code

The Commonwealth of Massachusetts recently authorized its department of public health to establish a sanitary code. House Bill No. 3301 gives the department broad powers to set up rules and regulations "of a general as well as a specific nature to protect and improve the public health of the commonwealth."

(Reference Books see page 216)

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GA&F Sales Appointments

James M. Cloney has been named sales manager of Antara Chemicals Division of General Ani-



James M. Cloney

line & Film Corp., New York, it was announced last month. John T. Robinson has been appointed to the newly-created post of director of sales administration for the dyestuff and chemical division.

Mr. Cloney succeeds Harold G. Shelton, who recently was

named director of marketing for the dyestuff and chemical division. A sales executive with Antara since 1946, Mr. Cloney will direct sales



John T. Robinson

and marketing of the division's chemical products, including surfactants. He formerly was manager of the organic chemicals department and prior to that was manager of special products sales, market manager and west coast regional manager.

Mr. Robinson will be in charge of the division's marketing activities as well as development and administration of sales programs in the New York area. He previously was associated with Bruce Payne & Associates.

★

AAPCO to Meet in Wash.

The annual meeting of the Association of American Pesticide Control Officials will be held at the Shoreham Hotel, Washington, D. C., Oct. 16, 18 and 19, it was announced recently. On Friday evening, Oct. 18, the Chemical Specialties Manufacturers Association, in conjunction with several other trade associations, will give a dinner and reception for AAPCO members. Registration fee for the meeting is \$2.00.

One of the highlights of the convention will be a talk by James D. Kittelton, secretary of the LAPI committee of the Manufacturing Chemists' Association, on "The Need for Maintaining Uniformity in Precaution Labeling."

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Coming Meetings

American Public Health Association, 85th annual meeting, Public Auditorium, Cleveland, Nov. 11-15.

Association of American Pesticide Control Officials, annual meeting, Shoreham Hotel, Washington, D. C., Oct. 18-19.

Association of American Soap & Glycerine Producers, 31st annual convention, Waldorf-Astoria Hotel, New York, Jan. 22-24, 1958.

Association of Consulting Chemists and Chemical Engineers, annual meeting, Belmont-Plaza Hotel, New York, Oct. 22.

Chemical Industries, 26th Exposition, Coliseum, New York, Dec. 2-6.

Chemical Market Research Association, joint meeting with Commercial Chemical Development Association, Shamrock Hotel, Houston, Tex., Nov. 20-21.

Chemical Specialties Manufacturers Association, 44th annual meeting, Hollywood Beach Hotel, Hollywood, Fla., Dec. 9-11; 44th midyear meeting, Netherland Hilton Hotel, Cincinnati, May 19-21.

Cosmetic Industry Buyers & Suppliers Association, annual Christmas party, Waldorf-Astoria Hotel, New York, Nov. 30.

Entomological Society of America, annual meeting, Peabody Hotel, Memphis, Tenn., Dec. 2-5.

Grocery Manufacturers of America, 49th annual meeting, Waldorf Astoria Hotel, New York, Nov. 11-13, 1957.

National Hotel Exposition, 42nd show, Coliseum, New York, Nov. 11-15.

National Pest Control Association 24th annual convention, Louisville, Ky., Oct. 21-24.

National Sanitary Supply Association, 35th annual convention and trade show, Coliseum, New York, Feb. 22-25.

Packaging Machinery & Materials Convention, Convention Hall, Atlantic City, N. J., March 25-28, 1958.

Plant Maintenance & Engineering Show, 9th annual exposition, International Amphitheater, Chicago, Jan. 27-30.

Society of Cosmetic Chemists, 12th annual meeting, Commodore Hotel, New York, Dec. 10.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Roosevelt Hotel, New York, Nov. 12, Jan. 7, Feb. 11, annual dinner, Dec. 4.

Toilet Goods Association, 23rd annual convention, Poland Spring House, Poland, Maine, June 25-29, 1958; scientific section, Waldorf Astoria Hotel, New York, Dec. 9, 1957, and June 5, 1958.

Index to ADVERTISERS

Allied Chemical & Dye Corp., Nitrogen Division	178	Gillespie-Rogers-Pyatt Co.	73	Penick & Co., S. B.	90
Alsop Engineering Corp.	172	Givaudan-Delawanna, Inc.	46, 186	Peterson Filling & Packaging Corp.	137
American Cyanamid Co.	61	Glidden Co., The	168	Philadelphia Quartz Co.	182
Anchor-Hocking Glass Corp.	134	Gottsocho, Inc., Adolph	174	Pilot California Co.	16, 202
Andersen, Dr. Carl N.	209	Gross & Co., A.	199	Polak & Schwartz, Inc.	146
Antara Chemicals Div., General Aniline & Film Corp.	116	Harchem Div., Wallace & Tiernan	205	Polak's Frutal Works, Inc.	111
Argueso & Co., M.	119	Hazard, Dr. Frank O.	209	Precision Valve Corp.	148
Armour & Co.	21	Hazel-Atlas Glass, Div. of Continental Can Co.	141	Prentiss Drug & Chemical Co.	86
Aromatic Products, Inc.	94	Hercules Powder Co.	38, 118	Price, Dr. Donald	211
Atlantic Refining Co.	184	Hill Top Research Institute, Inc.	209	Procter & Gamble Co.	188
Atlas Powder Co.	196	Hoffman-La Roche, Inc.	62, 63		
		Hooker Electrochemical Co.	30	Rapids Machinery Co.	174
Baroco Wax Co., Division of Petrolite Corp.	84	Houchin Machinery Co.	160	R. C. Can Co.	142
Bart & Co., G.	124	Hudson Laboratories, Inc.	209	Reed Research Corp.	211
Blockson Chemical Co.	22			Rhodia, Inc.	194
Bradley Container Corp.	136	Industrial Bio-Test Labs., Inc.	209	Rohm & Haas Co.	42
Builders Sheet Metal Works, Inc.	156	International Minerals & Chemical Corp.	20	Roure-Dupont, Inc.	6, 7
		International Wax Refining Co.	208		
Candy & Co.	4			Scientific Associates	211
Chemical Industries Exposition	215	Jefferson Chemical Co.	198	Seil, Putt & Rusby, Inc.	211
Chemical Specialties Mfrs. Assn.	72	Johns-Manville	158	Semet-Solvay Petrochemical Div., Allied Chemical & Dye Corp.	95
Chemo Puro Mfg. Corp.	157	Jones & Laughlin Steel Corp.	129	Shanco Plastics & Chemicals, Inc.	207
Chiris & Co., Antoine	66			Shea Chemical Corp.	26
Cin-Made Corp., The	140	Kiefer Machine Co., The Karl	170	Shell Chemical Corp.	28
Colgate-Palmolive Co.	201	Krystall Chemical Co.	10	Shulton, Inc.	180
Columbia-Southern Chemical Corp.	214			Sinclair Chemicals, Inc.	101
Commercial Solvents Corp.	88	Lancaster, Allwine & Rommel	209, 212	Sindar Corp.	208
Consolidated Packg. Machy. Corp.	172	Leberco Laboratories	209	Foster D. Snell, Inc.	211
Continental Can Co.	132, 141	Leeban Color & Chemical Co.	214	Solvay Process Div., Allied Chemical & Dye Corp.	2nd cover, 33
Continental Filling Corp.	154	Lehmann & Co., George	164	Solvents & Chemicals Group, The	114
Cowles Chemical Co.	65	Lewers, Dr. W. W.	209	Stalford & Sons, Inc., John C.	150
Cox, Dr. Alvin J.	209			Stapan Chemical Co.	15
Crown Cork & Seal Co.	125	Magnus, Mabce & Reynard, Inc.	106	Sterwin Chemicals, Inc.	112
		Mantrose Corp., The	100	Stillwell & Gladding, Inc.	211
Deutsche Hydrierwerke, G.m.b.H.	176	Manufacturers Aid Co.	209	Sun Oil Co.	Facing 34
Diehl & Co., Wm.	215	Maryland Glass Co.	130	Swift & Co.	25
Dodge & Olcott, Inc.	152	Mathieson Chemicals Div., Olin Mathieson Chemical Corp.	192		
Dow Chemical Co., The	23, 34, 44, 212	McCutcheon, Inc., John W.	209	Tamms Industries, Inc.	214
Dragoco, Inc.	36, 37	McLaughlin Gormley King Co.	76	Tombarel Products Corp.	174
du Pont de Nemours & Co., E. I.	64, 108, 121	Meccaniche Moderne	162		
Dura Commodities Corp.	92	Merchants Chemical Co.	Facing 35	Ultra Chemical Works	206
Durez Plastics Division	70	Miranol Chemical Co., The	13	Ungerer & Co.	3rd Cover
		Molnar Laboratories	209	Union Carbide Chemicals Co., Div. of Union Carbide Corp.	71, 98
Eastman Chemical Products, Inc.	75	Monsanto Chemical Co.	21	Union Standard Equipment Co.	213
Emery Industries, Inc.	17			U. S. Bottlers Machinery Co.	177
Emulsol Chemical Corp.	104	National Aniline Division	27		
Enjay Co.	40	Neumann, Buslee & Wolfe, Inc.	212	van Ameringen-Haebler, Inc.	29, 85
Ertel Engineering Corp.	168	Newman Tallow & Soap Machy. Co.	210	Van Dyk & Co., Inc.	204
		Nopco Chemical Co.	190	Velsicol Chemical Corp.	96
Fairfield Chemical Division	4th Cover	Norda Essential Oil & Chemical Co.	3	Verley & Co., Albert	31
Felton Chemical Co.	19			Verona Chemical Co.	11
Foremost Food & Chemical Co.	170	Old Empire, Inc.	214		
Fritzsche Brothers, Inc.	122	Olin Mathieson Chemical Corp., Industrial Chemical Div.	192	Warwick Wax Co.	102
		Or	68, 69	West End Chemical Co.	14
GD Soc. Acc. Semp.	166	Oronite Chemical Co.	18	Westvaco Chlor-Alkali Div.	12
General Chemical Div., Allied Chemical & Dye Corp.	138, 139	Owens-Illinois Glass Co.	126, 127	Westvaco Mineral Products Div.	35
Gesell, Inc., R.	212			Wisconsin Alumni Research Found.	208
Gilbert Co., L. M.	172			Wyandotte Chemicals Corp.	8, 9, 200

Tale Ends

BON AMI and Scott Towels are teaming up in a dual advertising promotion on the first birthday of Jet Bon Ami. Each scratches the other fellow's back in its advertising. Bon Ami says "Jet Bon Ami cleans quick as a wink—especially with Scott-Towels." And Scott will push Jet Bon Ami as the ideal cleaner in its national television and other advertising. May make some other manufacturers mad, but only time will tell how mad. There are two schools of thought on this idea of combined advertising.

Well, our old pal, Spurious Products, Inc. and its famous low-calorie shampoo for fatheads, "Glit," recently received mention in the September issue of "Silicate P's & Q's" published by Philadelphia Quartz for 37 years. They used the imaginary "Glit" to hang a real blister on silly, stupid consumer advertising, pointing out the sharp difference between factual industrial advertising and consumer advertising which appeals to the emotions rather than to the intellect. Bayard Johnson of Franklin Research, co-founder of the now famous Spurious Products, and Mel Fuld of Fuld Bros., his partner in crime, should be sure to see a copy of Sept. "Silicate P's & Q's."

What's this we hear about E. H. Little, Colgate chairman, just adopting glasses for reading? After all these years?

Robert F. Schulz, an engineering manager at Sylvania's laboratories in Mountain View, Calif., in an article in the July-August issue of *The Beam*, Sylvania house organ, has some interesting comments to make on soap in Russia. Mr. Schulz was a member of a four-man group of electronics engineers who made a 10-day visit to the worker's paradise in May. "A bar of soap costs between 35 and 55 cents, a man's shirt upwards of \$30." At these prices a Russian factory worker (whose annual wage is \$700 for a skilled worker and \$400 for an unskilled worker, according to Mr. Schulz) has to work half an hour to earn enough to buy a bar of soap. Even at these prices Russians are anxious to buy, says Mr. Schulz.

Fred Lodes' joy at becoming a member of golf's exclusive hole-in-one club was not unalloyed. The demon golfer, turned aerosol consultant, sank his tee shot on the third hole at Knollwood Country Club, Elmsford, N. Y., Sept. 15, while playing with Willie Turnesa of golfing fame. The cost of his master stroke,—drinks on Fred for everyone for miles around,—left him with mixed emotions!

What's in a name? Recently, pronunciation of the name of Dr. George Fiero

of Esso-Standard Oil had the Chemical Specialties board meeting in something of an uproar. For years, George's name has been mispronounced. They have called him "Fee-air-row" which is definitely not correct. Then at the board meeting up spake one of George's pals and told that dignified assemblage that it is "Fear-row" and always has been. That started the rumpus with George in the middle. Always, his ancestors were strictly Dutch and the name should be spelled "Fieroe." CSMA members please note.

No achievement award will be made this year by the Chemical Specialties Manufacturers Association. This award which has gone annually for the past five years to an outstanding scientist in the field of chemical specialties for some outstanding development is being skipped for 1957. The award is usually made at the annual CSMA meeting in December.

The old school tie, that traditional badge of the British upper crust, has now spread in America to the "old company tie." In short, some of our big outfits, including some in the chemical field, now sport company ties, neck-ties that is. We see new designs published in the papers recently for Shell, Tennessee Products & Chemical, Olin-Mathieson, Continental Oil, du Pont, Koppers, Rohm & Haas, and Socony. Sort of a screwy idea, but it seems to be spreading. Anybody interested in joining the parade,—only one outfit seems to make up these ties, G. S. Harvale & Co. (sounds sort of like Harvard and Yale), 100 Fifth Ave., N. Y.

Howard J. Morgens, new prez of P & G who succeeded Neil McElroy the first of the month, was asked by a reporter at a press interview how it felt to become head man of America's largest soap company. His answer was emphatic and immediate: "It felt damned good!" And his memorable words forthwith went out over the AP wires to all parts of the country. We imagine next that he will be hearing from some more fussy members of the clergy hereafter to watch his language.

Preference...



BUYERS invariably give preference to advertised goods. Likewise, they have better customer acceptance. Now if it be in the field of soaps, detergents, aerosols, toilet goods, insecticides, floor products, automotive chemicals and the like where you want buyer preference for your materials or equipment, we suggest regular advertising in

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Non-staining insecticides will find wide acceptance in food handling and food processing plants . . . in hotels, restaurants and hospitals . . . in aerosols, household sprays, insect repellents and pet products . . . in dairy and other livestock sprays.

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